

Best Astronomical Images on the Web

By Andrew Fraknoi (*Foothill College*)

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One of the best things about astronomy these days is the abundance of fabulous images, both from telescopes on the ground and our many instruments in space. Many of these images were produced with government funds and are not under copyright. Others are from university and nonprofit observatories, which often have liberal policies when it comes to educational uses. And, with the growth of digital photography and the decreasing cost of hobbyist telescopes, many *amateur* astronomers are also making remarkable images of the deep sky. The list below is not comprehensive, but will introduce some of our favorite image archives.

1. The Top Image Sites

Astronomy Picture of the Day: <http://antwarp.gsfc.nasa.gov/apod/lib/aptree.html>

Two space scientists scour the internet and select one “sexy” astronomy image to feature each day. Their archives range widely, from traditional astronomical objects to space history, and have also been organized by subject. The search function works quite well for finding something specific among 11 years’ worth of daily images.

Hubble Space Telescope Images: <http://hubblesite.org/newscenter/archive/browse/images/>

Starting at this page, you can select among hundreds of Hubble pictures by subject or by date. Note that many of the images have supporting pictures with them, such as diagrams, animations, comparisons, etc. Excellent captions and background information are provided. Other ways to approach these images are through the more public-oriented Hubble Gallery: <http://hubblesite.org/gallery/> and the European home page: <http://www.spacetelescope.org/images/index.html>

National Optical Astronomy Observatories Image Gallery: http://www.noao.edu/image_gallery/

This growing archive shows images taken with the many telescopes that are part of the National Optical Astronomy Observatories. There are many objects pictured that are not available anywhere else. The gallery is organized by topic. An intriguing newer section highlights nice images taken in the Advanced Observing Program for non-professional guest observers: <http://www.noao.edu/outreach/aop/observers/bestof.html>

Planetary Photojournal: <http://photojournal.jpl.nasa.gov/index.html>

This site features thousands of images from planetary exploration, with captions of varied length. You can dial up images by world, feature name, date, or catalog number, and download images in a number of popular formats. Sadly, only NASA mission images are included. Note the rich “Other Query Methods” option on the menu at the bottom of the top page.

European Southern Observatory Photo Gallery: <http://www.eso.org/public/archiveindex.html>

Growing archives that include superb color images from the 4 telescopes that are being combined to make the “Very Large Telescope” in Chile. See the menu at left for approaching the gallery by topic.

Anglo-Australian Observatory Images: <http://www.aao.gov.au/images.html>

The brilliant astronomical photographer David Malin and his colleagues in Australia offer some of the most beautiful ground-based color images ever taken. They are well organized, but these are all under copyright and require permission for use.

Isaac Newton Group of Telescopes Image Gallery: http://www.ing.iac.es/PR/images_index.html

Includes beautiful images from the Herschel, Newton, and Kapteyn telescopes on La Palma. Each of the collections is nicely organized.

2. A Few Smaller Image Galleries from Professional Observatories

Canada-France-Hawaii Telescope Images:

<http://www.cfht.hawaii.edu/HawaiianStarlight/images.html>

Some remarkable color images from a major telescope on top of the Mauna Kea peak in Hawaii.

Chandra X-ray Observatory Images: <http://chandra.harvard.edu/photo/category.html>

Growing collection of images that show the universe as seen through “x-ray eyes”.

Gemini Observatory Images: http://www.gemini.edu/index.php?option=com_gallery

Beautiful new images from a pair of large telescopes, one in the northern, the other in the southern hemisphere.

Multiwavelength Astronomy Gallery:

http://coolcosmos.ipac.caltech.edu/cosmic_classroom/multiwavelength_astronomy/multiwavelength_museum/gallery.html

An interesting album from Caltech/JPL, which shows the same astronomical objects in several different bands of the spectrum: visible light, infrared, x-rays, etc.

NASA Human Spaceflight Image Gallery: <http://spaceflight1.nasa.gov/gallery/index.html>

Here is where to find the great astronaut images from the different missions.

NASA Images: <http://www.nasaimages.org/index.html>

This site is a partnership between NASA and an internet organization, and presents a wide range of NASA images (not just astronomical ones). The organization is not as good as the ones in our top category, but you can search for images and many historical pictures are included. (See also the Great Images at NASA site: <http://grin.hq.nasa.gov/>)

National Radio Astronomy Observatory Image Gallery: <http://images.nrao.edu/>

Organized by topic, the images show objects and processes that give off radio waves.

Palomar Observatory Images: <http://www.astro.caltech.edu/palomarnew/astrophotos.html>

For many years, the 200-inch telescope atop Mt. Palomar was the largest in the world. Here are some of the historic photos from this and related observatories.

Quasars and Active Galactic Nuclei: <http://www.astr.ua.edu/keel/agn/>

Astronomer William Keel at the University of Alabama has assembled a gallery of images and captions showing the wide range of activity in galaxies revealed by modern telescopes.

SOHO Satellite Images of the Sun: <http://sohowww.nascom.nasa.gov/>

Beautiful images of the Sun from space. Click on Gallery among the choices. See also the TRACE satellite images at: <http://trace.lmsal.com/POD/TRACEpodarchive.html>

Spitzer Infrared Telescope Image Gallery:

<http://www.spitzer.caltech.edu/Media/mediaimages/index.shtml>

Images from the observatory in space, showing what the universe looks like in “heat-rays,” rather than visible light.

Subaru Telescope Images: <http://www.naoj.org/Gallery/pressrelease.html>

Images from the large Japanese telescope on Mauna Kea in Hawaii.

3. A Few Other Galleries of Interest

Astronaut Photography of the Earth: <http://eol.jsc.nasa.gov/>

Evolution of our Solar System Timeline and Gallery from the Lunar and Planetary Institute:

<http://www.lpi.usra.edu/education/timeline/gallery/>

GALEX (Galaxy Evolution Explorer) Ultraviolet Satellite:

<http://www.galex.caltech.edu/media/images.html>

Mars Express: http://www.esa.int/SPECIALS/Mars_Express/index.html [we list this European planetary mission, because its images are not included in the Planetary Photojournal site mentioned in section 1. U.S. planetary missions have their images included and organized there]

Messier Catalog with Images: <http://www.maa.clell.de/Messier/messier.html>

Moon Mission Images from the National Space Science Data Center:

http://nssdc.gsfc.nasa.gov/imgcat/html/group_page/EM.html

Our Infrared World Gallery (infrared images from many telescopes):

http://coolcosmos.ipac.caltech.edu/image_galleries/missions_gallery.html

Sloan Digital Sky Survey Images: <http://www.sdss.org/gallery/>

Two Micron All-Sky Survey (2MASS) Infrared Gallery:

<http://www.ipac.caltech.edu/2mass/gallery/>

X-ray Images from European Satellites:

<http://www.mpe.mpg.de/xray/research/gallery.php?lang=en>

4. Image Galleries by Selected Amateur Astronomers

The World at Night (remarkable images by professional photographers who are amateur astronomers and set out to capture the world’s landmarks set against the dark night sky):

<http://www.twanight.org/newTWAN/index.asp>

Davide De Martin’s Sky Factory: <http://www.skyfactory.org/index.htm>

Akira Fuji Image Gallery: http://www.davidmalin.com/fujii/fujii_index.html

Robert Gendler’s The Universe in Color: <http://www.robgendlerastropics.com/>

Tony & Daphne Hallas (AstroPhoto): <http://www.astrophoto.com/images.htm>
Jerry Lodriguss (Catching the Light): <http://www.astropix.com/>
Jack Newton's Image Gallery: http://www.jacknewton.com/image_gallery.htm
Alex Mellinger Astrophotography: <http://canopus.physik.uni-potsdam.de/~axm/astrophot.html>
Andreas Rorig Astronomy Pages: http://www.andreasroerig.de/index_e.htm
Star Shadows Remote Observatory (a group of amateurs): <http://www.starshadows.com/gallery/>

5. Listings That Include Other Astronomical Photography Sites

Deep Sky Image Sites (Hartmut Frommert): <http://www.maa.clell.de/Messier/deep-1.html>
Pretty Pictures page on AstroWeb: http://www.cv.nrao.edu/fits/www/yp_pictures.html
Sky & Telescope Magazine:
<http://www.skyandtelescope.com/resources/internet/3304976.html?page=1&c=y>