

September 2008

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Edited by: Ahmad & Hanna Jrad



## September's Meeting

The next meeting of S\*T\*A\*R will be on Thursday, September 4. Our program will be "*Past Saturn and 7 More Years to Pluto:*" by Michael Lewis. All are welcome.

The meeting will begin promptly at 8:00pm at the Monmouth Museum on the campus of Brookdale Community College.

## Editor's Corner

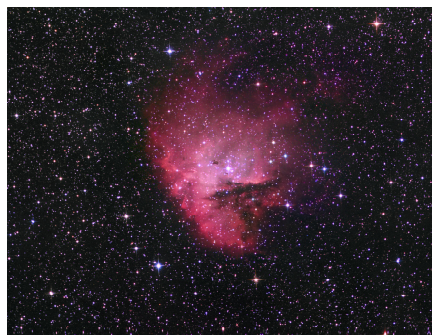
Thanks to Gavin Warnes, Steve Fedor, & Randy Walton for contributing to this month's Spectrogram.

Reminder to pay membership dues \$25/individual, \$35/family. Donations are appreciated. Make payments to Paul Nadolny at the September meeting or mail a check payable to S\*T\*A\*R Astronomy Society Inc to:

**S\*T\*A\*R Astronomy Society**  
**P.O. Box 863**  
**Red Bank, NJ 07701**

## October Issue

Please send articles and contributions for the next *Spectrogram* by Friday, September 26. Please email to [stargaze07@verizon.net](mailto:stargaze07@verizon.net).



NGC 281, Emission Nebula and Open Cluster  
in Cassiopeia  
Close to Schedar ( $\alpha$  Cassiopeia)

## Calendar

Sep 4, 2008 – "*Past Saturn and 7 More Years to Pluto:*" New Horizons Mission, Michael Lewis, NASA Solar System Ambassador

Oct 2, 2008 – "*An Idea That Would Not Die*" by Robert Zimmerman

Nov 6, 2008 – "*TBD*"

Dec 4, 2008 – "*Low Energy Routes to the Moon and Beyond*" by Dr. Edward Belbruno, Innovative Orbital Design, Inc., Princeton University

Jan 8, 2009 – "*Celestial Navigation*" by Justin Dimmell, Island School, Eleuthera, Bahamas

Feb 5, 2009 - "*TBD*"

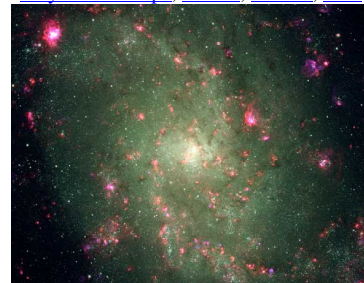
Mar 5, 2009 - "*Our Changing Sun*" by Ken Legal, S\*T\*A\*R Astronomy

Apr 2, 2009 – "*TBD*"

May 7, 2009 – "*TBD*"

Jun 4, 2009 – AGM

M33- Nearby Spiral Galaxy  
**Credit:** [Nichole King \(STScI\) et al.](#),  
[Mayall Telescope, KPNO, NOAO, NSF](#)



Close to Hamal ( $\alpha$  Aries)

## President's Corner

By Gavin Warnes

Well, it doesn't seem like a year since I first wrote to you as President. A lot has changed in the last year – we've swelled the membership by 20%, got the club on a firmer financial footing without raising dues, re-started our ATM meetings and moved to a new meeting site. Thank you to everybody who made this possible. I'm hoping this year will be just as good.

This year was the first year that we had two picnics – one above ground and one underwater! For the vast majority of sensible people who didn't attend the first picnic I'll show some of the photos at September's meeting. On the subject of meetings, I've been working on the program for this year. Here's what's in store so far (See cover page).

Michael Lewis, one of the two original NASA Solar System Ambassadors, will open the year with a talk on 'Past Saturn and 7 More Years to Pluto: New Horizons'. He'll be followed in October by Bob Zimmerman, author of multiple astronomy books aimed at the general public, who will talk give his talk on the Hubble Space Telescope 'An Idea that Would Not Die'. **TELL YOUR FRIENDS ABOUT THIS!** It will coincide with the launch of the shuttle mission to service Hubble for the first time so there should be a lot of press coverage around the time. Copies of Bob's book will be available for purchase and signing.

In December we'll hear from another great speaker – Dr. Ed Belbruno. Ed is a pioneer of the application of chaos theory to celestial mechanics and author of 'Fly Me to the Moon'. He'll talk on his ideas, how they got him let go from JPL but then were used to save a Japanese mission to the Moon. In January we'll be visited by Justin Dimmell, an expert in celestial navigation, who will teach us how to navigate using the stars. After that we'll try another new idea – a presentation from an equipment vendor. I've invited Alan Traino, partner in Lunt Solar Systems, to talk about the development of their new range of solar telescopes.

Rich Gaynor has also been working on outreach opportunities for this year. So far we have two events planned. On the evening of Saturday October 18<sup>th</sup> the Monmouth Museum will be holding a fundraiser and have asked us to set up telescopes outside the museum. On Friday October 24<sup>th</sup> (cloud date Saturday 25<sup>th</sup>) we'll have our 2<sup>nd</sup> annual public star party at Bayonet Farm in Holmdel.

Ahmad Jrad continues to do a great job as editor of the Spectrogram. Please help him out by writing something! All contributions, big or small, are welcome.

The next few months bring the best observing conditions of the year so drag out your telescope and spend some nights under the stars!

Keep looking up!

Gavin

## June Meeting Minutes

By Steve Fedor

The 2008 annual business meeting of S\*T\*A\*R Astronomy Club began at 8:06 pm on June 5<sup>th</sup>. President Gavin Warnes chaired the meeting and began by discussing the evening's agenda and displaying pictures of M106 and NGC-5907 taken by Steve Walters.

The meeting proceeded with a demonstration of new software from Microsoft titled "Worldwide Telescope." Rich Soloman gave the membership a detailed demonstration and overview of all the essential functions of the software. The talk ended at 8:34.

Nancy McGuire presented "Object of the Month." This month Nancy presented the many objects to be found in the direction towards the center of our galaxy. She then presented humorous slides describing how "You Know You're a Deep Sky Observer."

Gavin then did a review of the 2007-2008 season which happened to be the club's 50<sup>th</sup> year. Gavin indicated the following:

- We had a 28% increase in membership (52 to 69).
- Increased the club's outreach efforts and thanked Rich Gaynor for his efforts.
- Acknowledged the wide range of speakers for the meetings.
- Acknowledged the numerous star parties held by members.
- Indicated the club is now in possession of a 13 inch Coulter Dob.

Gavin then presented numerous members with certificates of appreciation for their efforts and contributions throughout the year to help S\*T\*A\*R remain the fine astronomy club it is. Certificates were given to:

Doug Berger - Darkness Intervals  
Dave Britz – Meeting Speaker  
Charlie Byrne – Meeting Speaker  
Steve Fedor – Picnic Committee  
Rich Gaynor – Outreach  
Ahmad Jrad – Spectrogram Editor  
Charles Kirby – Coffee & Refreshments  
Ken Legal - Picnic and Presenter  
Mike Lindner – Web Master  
Nancy McGuire - Object of the Month  
Paul Nadolny - 7 years as Treasurer

Dennis O'Leary – Meeting Speaker  
Jay Respler – Picnic Committee.  
Anne Silverman – Picnic Committee.  
Gordon Waite - Web Host  
Steve Walters – Meeting Speaker  
Andy Zangle – ATM host

Paul Nadolny presented his final report as club treasurer. Details can be found elsewhere but essentially the club's finances grew by \$617.55. Paul who is retiring as treasurer was given a hearty round of applause for his work over the past 7 years.

Next was the topic of moving the club's meeting site to the Monmouth Museum on the campus of Brookdale Community College. Gavin opened the floor to a lively discussion in which both the pros and cons of relocating were considered. Eventually a motion was made by Randy Walton to relocate the club's meeting site. The motion was seconded by Jay Respler. The final count was 19 in favor of moving, 9 opposed. The new meeting site for S\*T\*A\*R Astronomy club will be at the museum beginning in September.

Next was the election of club officers. Running unopposed were Gavin Warnes, Dennis O'Leary, Rob Nunn, Steve Fedor for President, Vice-President, Treasurer and Secretary respectively. Dan Pontone and Jay Respler were on the slate for the office of "Member-at-Large." Frank Loso made a motion to accept Gavin, Dennis, Rob and Steve for their offices. The motion passed unanimously. A vote was taken for Member-at-Large. Dan Pontone won 19 to 6.

Motions to keep the dues at their current levels and maintain the \$250. Discretionary spending limit of the board were passed unanimously.

A vote was taken to decide if the club would remain a member of the IDA. The count was 6 in favor, 17 not in favor.

Mike Lindner made a motion that use of the club's observatory fund be expanded to include items needed for all the club's scopes and not be limited to the 25 inch Obsession. The motion was passed unanimously.

Gavin then discussed the annual club picnic and asked for volunteers to be on the picnic committee. Volunteers included Steve Fedor, Steve Lewis, Jay Respler, Jay Boyarski and Anne Silverman. Steve Fedor indicated he would get the ball rolling soon and contact the volunteers.

Our new member-at-Large Dan Pontone discussed upcoming ISS passes.

Larry Campbell mentioned he had a 10-inch Dob for sale, which was on display.

Originally scheduled was a portable planetarium to be shown by Dennis O'Leary. However due to time restrictions the meeting was informally adjourned at 9:46 pm.

Due to cloudy skies no observing took place after the meeting.

## A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion.

Hundreds of satellites now swarm over the Earth in a spherical shell of high technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a "Google for satellites," a web portal that would make requesting data from Earth-observing satellites almost as easy as typing a search into Google.

"You just click on it and it takes care of all the details for you across many sensors," Mandl explains.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA's Earth Observing-1 (EO-1) satellite, part of the agency's New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called "Sensor Web 2.0."

The vision is to simply enter a location anywhere on Earth into the website's search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

"Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an image in the area of interest," Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. "One thing we might wish to map is the salinity of flood waters in order to help rescue

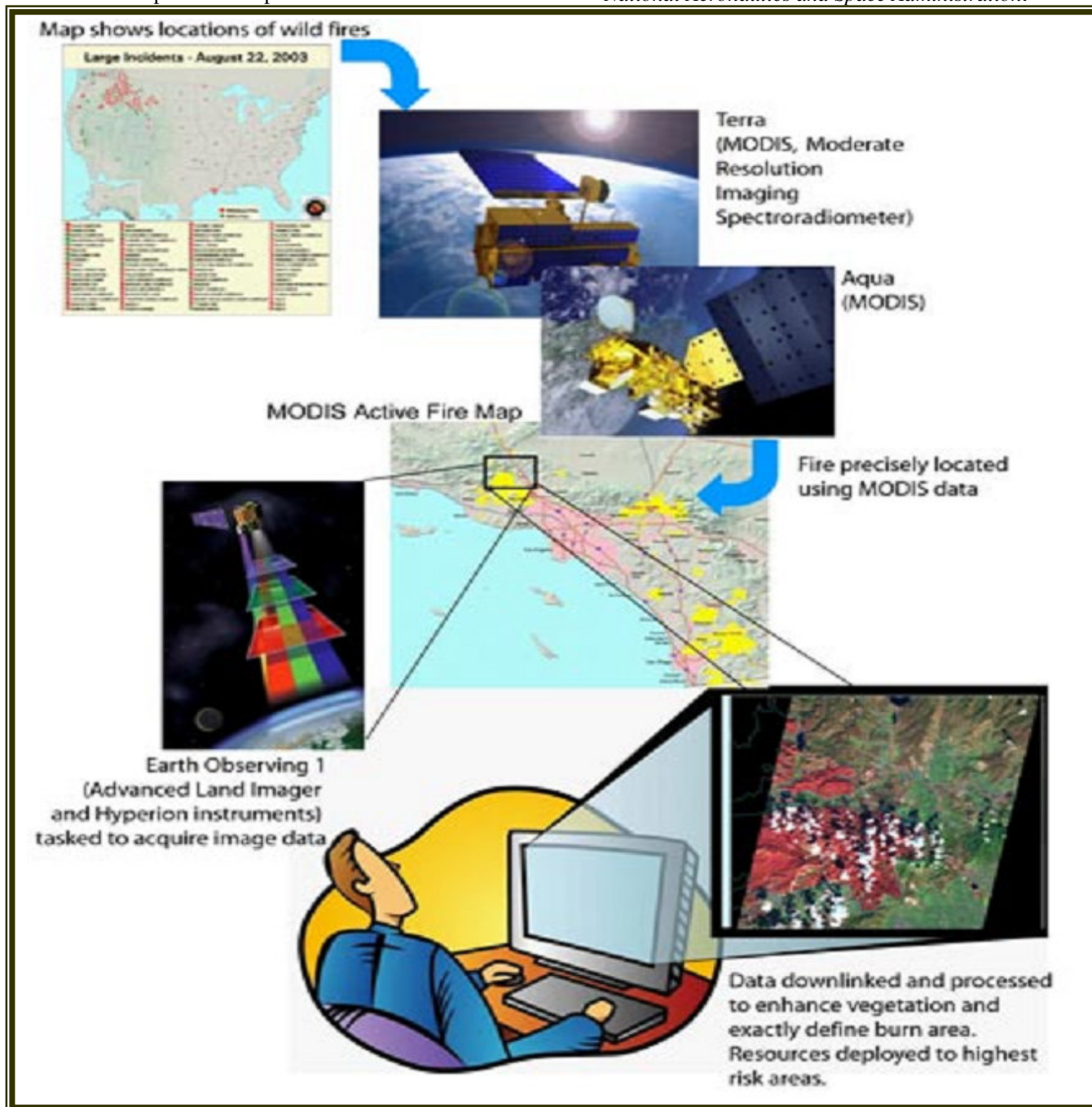
workers plan their relief efforts,” Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled water, but if flood water was fresh, water purifiers would suffice. An early and correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and

understand our ever-changing planet.

To learn more about the EO-1 sensor web initiatives, go to <http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html>. Kids (and grown-ups) can get an idea of the resolution of EO-1’s Hyperion Imager and how it can distinguish among species of trees—from space at [http://spaceplace.nasa.gov/en/kids/eo1\\_1.shtml](http://spaceplace.nasa.gov/en/kids/eo1_1.shtml).

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



## Are you a S\*T\*A\*R Member?

S\*T\*A\*R is the proud owner of a **monstrous 25" Dobsonian Obsession reflector** – which members can gain access to!

Meetings are the first Thursday of each month, except July and August, at 8:00 PM at the King of Kings Lutheran Church, 250 Harmony Rd. in Middletown. Meetings generally consist of lectures and discussion by members or guest speakers on a variety of interesting astronomical topics. S\*T\*A\*R is a member of United Astronomy Clubs of New Jersey (UACNJ), the Astronomical League (AL), and the International Dark Sky Association (IDA).

Memberships: ( ) Individual....\$25 ( ) Family...\$35

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Make checks payable to: S\*T\*A\*R Astronomy Society, Inc. and mail to P.O. Box 863, Red Bank, NJ 07701



## 2008 September Celestial Events

Supplied by J. Randolph Walton (Randy)

Day	Date	Time (EDT)	Event
Sat	6	01:30	Jupiter Sets
		06:20	Saturn Rises
		06:33	Sunrise
		19:23	Sunset
		20:15	Mercury Sets
		20:27	Mars Sets
		22:42	Moon Set
		10:04	<b>First Quarter Moon</b>
Sun	7	20:13	Double shadow transit on Jupiter
		23:29	Moon Set
		19:14	Sunset
Thu	11	19:40	Venus 0.3 deg. N of Mars
		01:05	Jupiter Sets
Sat	13	06:00	Saturn Rises
		06:39	Sunrise
		18:17	Moon Rise
		19:11	Sunset
		20:00	Mercury Sets
		20:15	Venus Sets
		05:13	<b>Full Moon</b>
		06:54	Moon Set
Mon	15	21:14	Moon Rise
		23:00	Moon 1 deg. N of the Pleiades (M45)
Fri	19	00:35	Jupiter Sets
		05:35	Saturn Rises
		06:46	Sunrise
		19:00	Sunset
		19:37	Mercury Sets
		19:53	Mars Sets
		22:04	Moon Rise
		01:04	<b>Last Quarter Moon</b>
Mon	22	11:45	<b>Fall Equinox</b>
		15:05	Moon Set
		00:07	Jupiter Sets
Sat	27	05:10	Saturn Rises
		06:53	Sunrise
		18:48	Sunset
		19:10	Mercury Sets
		19:40	Mars Sets
		20:00	Venus Sets
		04:12	<b>New Moon</b>
		Before 04:25	Zodiacal Light visible in E before morning twilight for next two weeks
Mon	29	07:13	Moon Rise

## In the Eyepiece

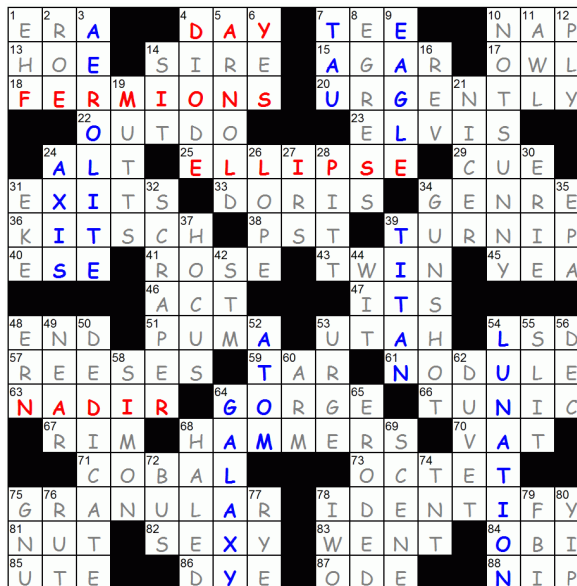
Here is a list of objects for this month. This is reproduced from [www.skyhound.com](http://www.skyhound.com) with the kind permission of its creator and author of SkyTools Greg Crinklaw.

Object(s)	Class	Con	RA	Dec	Mag
<a href="#">61 Cyg</a>	Variable Star	Cygnus	21h06m54.6s	+38°44'31"	6.0
<a href="#">NGC 7027</a>	Planetary Nebula	Cygnus	21h07m01.7s	+42°14'10"	10.4
<a href="#">Cygnus X-1</a>	Black Hole/Variable Star	Cygnus	19h58m21.7s	+35°12'06"	8.8
<a href="#">NGC 6781</a>	Planetary Nebula	Aquila	19h18m28.3s	+06°32'23"	11.8
<a href="#">NGC 6946</a>	Galaxy	Cygnus	20h34m52.8s	+60°09'14"	9.7
<a href="#">NGC 7008</a>	Planetary Nebula	Cygnus	21h00m32.8s	+54°32'35"	13.3
<a href="#">Saturn Nebula</a>	Planetary Nebula	Aquarius	21h04m10.8s	-11°21'48"	8.3
<a href="#">NGC 6819</a>	Open Cluster	Cygnus	19h41m18.8s	+40°11'05"	9.5
<a href="#">NGC 6751</a>	Planetary Nebula	Aquila	19h05m55.5s	-05°59'31"	12.5
<a href="#">Veil/Cirrus</a>	Diffuse Nebula	Cygnus	20h45m42.0s	+30°43'00"	7.0
<a href="#">Gamma 2 Del</a>	Multiple Star	Delphinus	20h46m39.5s	+16°07'27"	3.9
<a href="#">NGC 6934</a>	Globular Cluster	Delphinus	20h34m11.0s	+07°24'18"	8.9
<a href="#">NGC 7006</a>	Globular Cluster	Delphinus	21h01m29.0s	+16°11'18"	10.6
<a href="#">NGC 6905</a>	Planetary Nebula	Delphinus	20h22m23.0s	+20°06'16"	11.9
<a href="#">M 72</a>	Globular Cluster	Aquarius	20h53m28.0s	-12°32'12"	9.2
<a href="#">Hickson 88</a>	Galaxy Group	Aquarius	20h52m22.8s	-05°45'29"	12.2
<a href="#">Cheeseburger Nebula</a>	Planetary Nebula	Cygnus	21h06m18.6s	+47°51'08"	12.7
<a href="#">Crescent</a>	Diffuse Nebula	Cygnus	20h12m00.0s	+38°21'00"	--
<a href="#">LW Cyg</a>	Multiple Star	Cygnus	21h55m13.8s	+50°29'50"	9.2
<a href="#">M2</a>	Globular Cluster	Aquarius	21h33m28.4s	-00°49'39"	7.3
<a href="#">M15</a>	Globular Cluster	Pegasus	21h30m01.0s	+12°10'12"	7.3
<a href="#">Helix</a>	Planetary Nebula	Aquarius	22h29m38.4s	-20°50'13"	7.6
<a href="#">Humason 1-2</a>	Planetary Nebula	Cygnus	21h33m06.6s	+39°38'17"	12.7
<a href="#">NGC 7139</a>	Planetary Nebula	Cepheus	21h46m08.2s	+63°47'59"	13.0

## Moon Phases

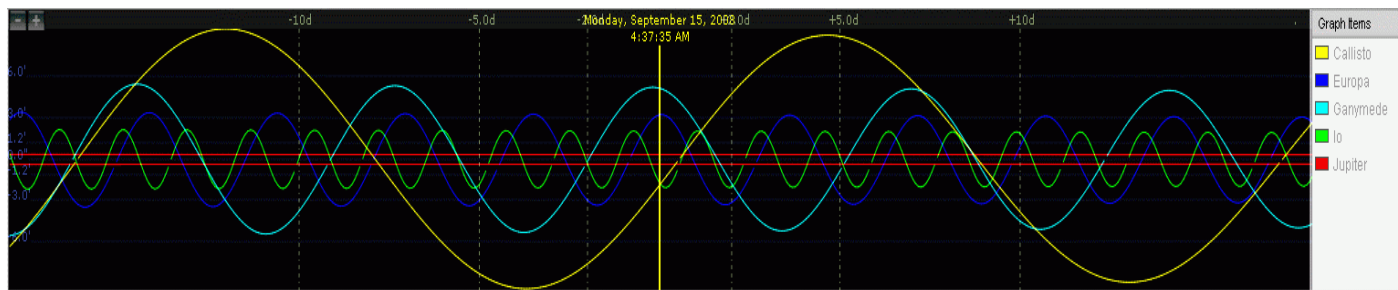


## AstroPuzzle Solution for June 2008



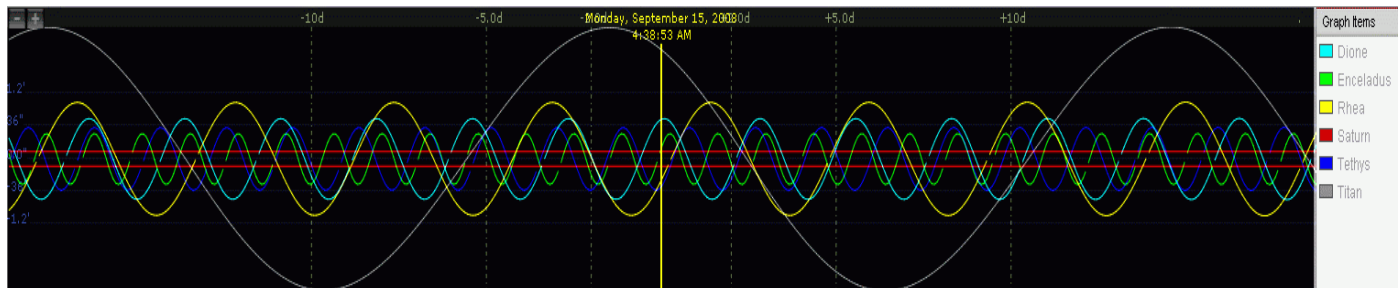
## Jupiter Moon Calendar

Here is a graphical depiction of the visible moons of Jupiter for the month of September 2008.

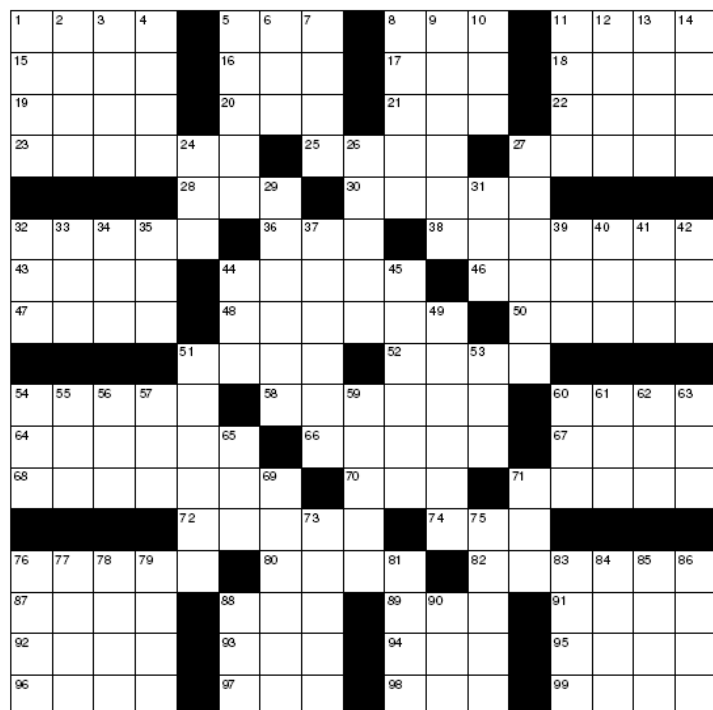


## Saturn Moon Calendar

Here is a graphical depiction of the visible moons of Saturn for the month of September 2008.



# AstroPuzzle - September 2008



www.CrosswordWeaver.com

## ACROSS

- 1 Input into a computer  
 5 Pace  
 8 Farm credit administration (abbr.)  
 11 Union of Soviet Socialist Republics  
 15 De \_\_\_ (anew)  
 16 Epoch  
 17 Tax agency  
 18 *The second largest moon of Saturn.*  
 19 Sign  
 20 Rock group  
 21 Calorie  
 22 France & Germany river  
 23 Baron's domain  
 25 Ashen  
 27 *Name of Appolo 11 Lunar module used to land on the moon.*  
 28 Respiratory disease  
 30 Solid exterior angle  
 32 Zombie  
 36 *A negatively charged lepton, similar to an electron or a muon but much more massive and very short-lived.*  
 38 Not anywhere  
 43 Person, place or thing  
 44 Insane  
 46 *The combined mass of the five largest moons of this planet are less than half the size of Triton alone.*  
 47 Brand of coffee alternative  
 48 *A moon of an adjascent planet named after the greek God of fear.*  
 50 Representative

- 51 Other \_\_\_  
 52 Grating sound  
 54 *That point on the celestial sphere directly below the observer.*  
 58 Women's stockings  
 60 Small horse  
 64 Provoke  
 66 Chop  
 67 Deceive  
 68 Bug  
 70 Tangle  
 71 Belgian Congo  
 72 Toothbrush brand  
 74 Grow older  
 76 Condescend  
 80 Cross  
 82 Riddle  
 87 Land measurement  
 88 Extra-sensory perception  
 89 Vase  
 91 Spree  
 92 Cut of beef  
 93 Ball holder  
 94 Neither's partner  
 95 Not out of  
 96 Institution (abbr.)  
 97 American Cancer Society (abbr.)  
 98 Female sheep  
 99 Hold

## DOWN

- 1 Stuck up person  
 2 *The hazy-looking patch surrounding*

*the nucleus of a comet.*

- 3 Allege  
 4 Taboo  
 5 Transparent gem  
 6 Before (prefix)  
 7 Mom  
 8 Sheer, triangular scarf  
 9 Child's drawing device  
 10 American sign language  
 11 \_\_\_ Minor (Little Dipper)  
 12 Thick carpet  
 13 Caulk  
 14 Seldom  
 24 Football assoc.  
 26 Brief witty speech  
 27 Enfold  
 29 Dweller of the Beehive State  
 31 Promissory note  
 32 Gross national product (abbr.)  
 33 Garden tool  
 34 Possessive pronoun  
 35 Spanish "one"  
 37 Alias  
 39 Frump  
 40 East northeast  
 41 Sprint  
 42 Eastern Time  
 44 Car speed  
 45 *The outermost part of the Sun's atmosphere.*  
 49 Holy places  
 51 *the largest moon of the planet Neptune.*  
 53 South southeast  
 54 Fresh  
 55 Boxer Muhammad  
 56 Director (abbr.)  
 57 Frost  
 59 Confinement  
 60 Food and drug administration (abbr.)  
 61 French "yes"  
 62 Spr.. month  
 63 Downwind  
 65 Sticky black substance  
 69 *3.26 light years*  
 71 Type of Buddhism  
 73 Trots  
 75 Literary composition  
 76 Painter of melting clocks  
 77 Economics abbr.  
 78 Part of the eye  
 79 Lad  
 81 *Any deposit of sand-sized (1/16 to 2 mm in diameter) windblown material.*  
 83 Same cite as previous  
 84 Left  
 85 Deaden  
 86 *The smallest particle of any element.*  
 88 Terminal abbr.  
 90 Move a boat