



# *Desert Sky Observer*

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NEWSLETTER OF THE ANTELOPE VALLEY ASTRONOMY CLUB, INC  
P.O. BOX 8545, LANCASTER, CALIFORNIA 93539-8545  
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Visit the Antelope Valley Astronomy Club website at [www.avastronomyclub.org/](http://www.avastronomyclub.org/) The  
A.V.A.C. is a Sustaining Member of The Astronomical League and the International  
Dark-Sky Association.*



## **Up-Coming Events**

- May 4:** Mojave Rocket Launch Day @ Mojave Airport
- May 5:** Full Moon Walk and Star Party @ [Prime Desert Woodlands](#)
- May 11:** Club Meeting at the Sage Planetarium with Gary Peterson
- May 12:** Dark Sky Star Party @ [Redrock Canyon](#)
- May 14:** Executive Board Meeting
- May 18:** Branch Elementary School Science day
- May 19-20:** [JPL Open House](#)
- May 25-28:** [RTMC Astronomy Expo](#)

\* Monthly meetings are held at the S.A.G.E. Planetarium on the Cactus School campus in Palmdale, the second Friday of each month. The meeting location is at the northeast corner of Avenue R and 20<sup>th</sup> Street East. Meetings start at 7 p.m. and are open to the public. *Please note that food and drink are not allowed in the planetarium*

## ***Club President Terry Pedroza***

Another Poppy Festival has come and gone, if you missed it, well you missed a great time. The atmosphere at the California Poppy Festival is always happy and family orientated, just as it was this year. Saturday was warm and sunny with no wind and the grounds were packed with people all day. Our club had a very busy day showing the public the moon and the sun through our telescopes. There were no sunspots but the view in H alpha was impressive with several prominences and one possible flare. David's H alpha scope was awesome with its views.

We sold many opportunity-drawing tickets on Saturday and the public seemed very pleased with our display. Our display this year was different than in the past with a smaller tent but more open area. We used our club trailer as part of our display with many posters and the like inside for the public to look at. The trailer made this event much easier to set up and tear down as part of the display is semi-permanent and the booth was packed and ready to go when I got the car there after the event.

Sunday was a much different day than Saturday with clouds, scattered rain and bone chilling winds at times. Through it all we hung tough and had a good day. We didn't get to show off our telescopes as much but the atmosphere was still festive. We finished the day with the drawing for the Meade 114 EQ telescope that Woodland Hills donated for the event. The winner was Anita Toledo and I am sure that she will love her new scope. Congratulations Anita.

I would like to thank all the club members who helped out with this year's California Poppy Festival. I would also like to thank Rose Moore for her hard in work getting the event set up and staffed. Thank you all for the great effort!

We have several projects in the works at this time and I'm hoping that we will get a lot of feedback from our members after the next meeting. See you there!

***Vice President  
Shane Barker***

Our speaker this month is Gary Peterson from San Diego State University and he will be doing a talk about the moon Triton.

Interesting tid-bit:

New planet holds possibility for life.

For the first time astronomers have discovered a planet, dubbed 581 c, outside our solar system that is potentially habitable with Earth-like temperatures, a find researchers described Tuesday as a big step in the search for "life in the universe."

***Director of Community Development  
Rose Moore***

The month of May will be very busy for our club. Beginning Friday, May 4th at 10:00 a.m. we have the "Mojave Students Rocket Launch Day at Mojave Airport." Further information will be coming from Jeff Riechmann or myself.

Saturday, May 5th at 8 p.m. Jeremy will conduct a "Full Moon Walk and Public Star Party" at Prime Desert Woodlands.

Our monthly star party is on Saturday, May 12th, at Red Rock Canyon and is open to the public so tell your friends and neighbors. We need members with telescopes, any slides or other visual presentations you may have, and a person(s) to give a presentation. You may come out as early as 5:00 p.m. to set up. Event starts around 7:00 p.m. Please bring your club ID badge!! If you don't, you will have to pay for parking!!

Friday, May 18th will be the "Branch Elementary School, Edwards Air Force Base Science Day." Set up time is 7:30 a.m. and the event will begin at 8:25 a.m. Further information and a map for those attending will be available at our next meeting. We need a couple of outside telescopes for solar observing, and members inside who can give presentations, demonstrations, or other displays that may be interesting to the students. I will need all names of those attending this event for security at Edward's AFB gates.

For those going to RTMC: drive safely, have fun, and bring us back some pictures!

We need more members to come out to support these events during this busy month! Please come out and share your enthusiasm for astronomy!



## Clouds from Top to Bottom

By Patrick L. Barry

During the summer and fall of 2006, U.S. Coast Guard planes flew over the North Pacific in search of illegal, unlicensed, and unregulated fishing boats. It was a tricky operation—in part because low clouds often block the pilots' view of anything floating on the ocean surface below.

To assist in these efforts, they got a little help from the stars.

Actually, it was a satellite—CloudSat, an experimental NASA mission to study Earth's clouds in an entirely new way. While ordinary weather satellites see only the tops of clouds, CloudSat's radar penetrates clouds from top to bottom, measuring their vertical structure and extent. By tapping into CloudSat data processed at the Naval Research Laboratory (NRL) in Monterey, CA, Coast Guard pilots were better able to contend with low-lying clouds that might have otherwise hindered their search for illegal fishing activity.

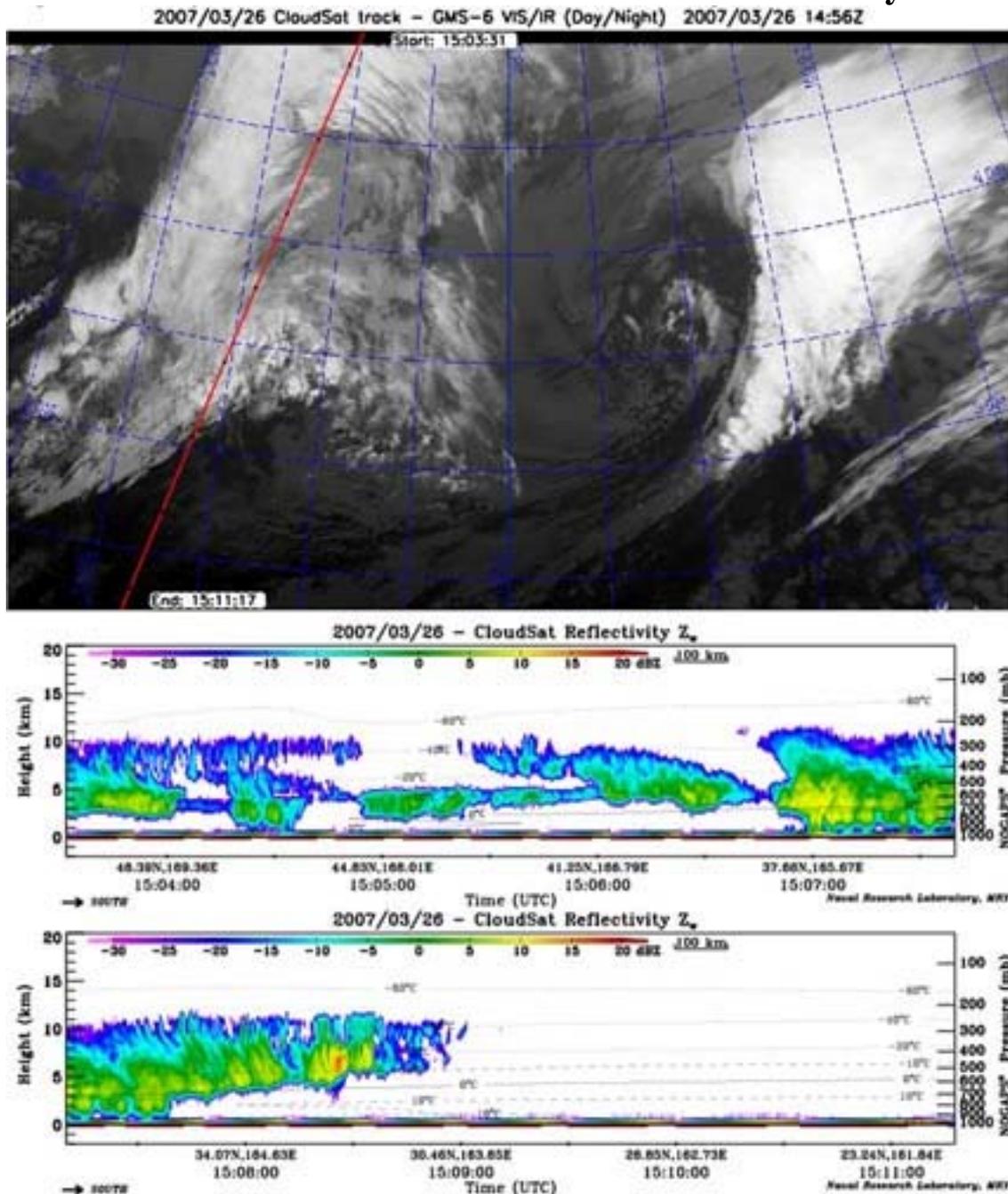
In the past, Coast Guard pilots would fly out over the ocean not knowing what visibility to expect. Now they can find out quickly. Data from research satellites usually takes days to weeks to process into a usable form, but NASA makes CloudSat's data publicly available on its QuickLook website and to users such as NRL in only a matter of hours—making the data useful for practical applications.

"Before CloudSat, there was no way to measure cloud base from space worldwide," says Deborah Vane, project manager for CloudSat at NASA's Jet Propulsion Laboratory.

CloudSat's primary purpose is to better understand the critical role that clouds play in Earth's climate. But knowledge about the structure of clouds is useful not only for scientific research, but also to operational users such as Coast Guard patrol aircraft and Navy and commercial ships at sea.

"Especially when it's dark, there's limited information about storms at sea," says Vane. "With CloudSat, we can sort out towering thunderclouds from blankets of calmer clouds. And we have the ability to distinguish between light rain and rain that is falling from severe storms." CloudSat's radar is much more sensitive to cloud structure than are radar systems operating at airports, and from its vantage point in space, Cloudsat builds up a view of almost the entire planet, not just one local area. "That gives you weather information that you don't have in any other way."

There is an archive of all data collected since the start of the mission in May 2006 on the CloudSat QuickLook website at [cloudsat.atmos.colostate.edu](http://cloudsat.atmos.colostate.edu). And to introduce kids to the fun of observing the clouds, go to [spaceplace.nasa.gov/en/kids/cloudsat\\_puz.shtml](http://spaceplace.nasa.gov/en/kids/cloudsat_puz.shtml).



A CloudSat ground track appears as a red line overlaid upon a GMS-6 (a Japanese weather satellite) infrared image. CloudSat is crossing the north-central Pacific Ocean on a descending orbit (from upper-right to lower-left) near a storm front. The radar data corresponding to this ground track (beginning in the center panel and continuing into the lower panel) shows a vertical cloud profile far more complex than the two-dimensional GMS-6 imagery would suggest. Thicker clouds and larger droplets are shown in yellow/red tones, while thinner clouds are shown in blue.

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

## *News and Headlines*

### **"Super-Earth" Found**

To date astronomers have detected more than 220 planets around other stars, but their search for one that's truly "Earthlike" — relatively small, temperate, and potentially habitable — has proved elusive. Yesterday, however, a team from Geneva Observatory in Switzerland announced the discovery of an exoplanet that's the smallest yet around a normal star and likely a close match to ours.

[http://skytonight.com/news/home/Super-Earth\\_Found.html](http://skytonight.com/news/home/Super-Earth_Found.html)

### **NASA Completes First Checkout Flight of Airborne Observatory**

NASA successfully completed the first of several planned checkout test flights of the Stratospheric Observatory for Infrared Astronomy (SOFIA) aircraft. The flight took place in Waco, Texas, to observe the low-speed and low-altitude handling performance of the aircraft. NASA research pilot and former astronaut Gordon Fullerton led the crew making the historic first flight.

[http://www.spacedaily.com/reports/NASA\\_Completes\\_First\\_Checkout\\_Flight\\_Of\\_Airborne\\_Observatory\\_999.html](http://www.spacedaily.com/reports/NASA_Completes_First_Checkout_Flight_Of_Airborne_Observatory_999.html)

### **Scientists Predict Next Solar Cycle Peak**

The peak of the next sunspot cycle is expected in late 2011 or mid-2012 - potentially affecting airline flights, communications satellites and electrical transmissions. But forecasters can't agree on how intense it will be.

<http://skytonight.com/news/wires?id=105682361&c=y>

### **Earth's "Other Moon"**

Last September, when a tiny asteroid drifted into Earth's vicinity, our planet's gravity captured it. The meter-size object, designated 6R10DB9, is now making its third wide swing around Earth. It was quite faint, magnitude 19.3, when discovered September 14th with the 0.68-meter (27-inch) Schmidt telescope of the Catalina Sky Survey in Arizona, and it won't get much brighter than that.

[http://skytonight.com/news/Earth\\_Second\\_Moon.html](http://skytonight.com/news/Earth_Second_Moon.html)

### **Hawking goes zero-G: 'Space, here I come'**

World-famous physicist Stephen Hawking experienced eight rounds of weightlessness on Thursday during a better-than-expected airplane flight that he saw as the first step toward a trip in space.

<http://www.msnbc.msn.com/id/18334489/>

### **US snubs Russian request for joint moon exploration**

The head of Russia's space agency Sunday said the US has rebuffed an offer from Moscow to jointly explore the moon, while announcing a separate contract with NASA for nearly one billion dollars for the International Space Station.

[http://news.yahoo.com/s/afp/20070429/sc\\_afp/russieusspaceiss](http://news.yahoo.com/s/afp/20070429/sc_afp/russieusspaceiss)

### **NASA nebula image captures violent birth of stars**

A dazzlingly detailed image released by NASA scientists on Tuesday shows the chaotic conditions in which stars are born and die -- in this case in a huge nebula in another neighborhood of our Milky Way galaxy.

[http://news.yahoo.com/s/nm/20070424/sc\\_nm/space\\_nebula\\_dc;\\_ylt=Aia74eLQbEA7oo59kd3rK5WHgsgF](http://news.yahoo.com/s/nm/20070424/sc_nm/space_nebula_dc;_ylt=Aia74eLQbEA7oo59kd3rK5WHgsgF)

### **Black Holes May Fill the Universe With the Seeds of Life**

New research shows that black holes are not the ultimate destroyers that are often portrayed in popular culture. Instead, warm gas escaping from the clutches of enormous black holes could be one source of the chemical elements that make life possible.

<http://www.spaceref.com/news/viewpr.html?pid=22447>

**A.V.A.C. Membership Information**

Membership in the Antelope Valley Astronomy Club is open to any individual.

The Club has three categories of membership.

- Family membership at \$30.00 per year.
- Individual membership at \$25.00 per year.
- Junior membership at \$15.00 per year.

Membership entitles you to...

- Desert Sky Observer—monthly newsletter.
- The Reflector—the quarterly publication of the Astronomical League.
- The A.V.A.C. Membership Manual.
- To borrow club telescopes, binoculars, camera, books, videos and other items.

The Desert Sky Observer is available as a separate publication to individuals at a cost of \$10.00 per year. Subscription to the Desert Sky Observer does not entitle the subscriber to membership in the Antelope Valley Astronomy Club and its associated privileges.

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## *Astronomy Links on the Web*

<http://www.darksky.org/>

(International Dark-Sky Association)

<http://www.astro-tom.com/>

(Tom Koonce's website)

<http://www.noexitrecords.com/zerobox/astro.htm>

(Tom Varden's website)

<http://www.astropaws.com>

(Terry Babineaux's astrophotos)

<http://www.actonaastro.com/>

(Steve Trotta's website)

<http://saturn.jpl.nasa.gov/multimedia/images/latest/index.cfm>

(the latest Saturn pics from Cassini)

<http://astronomy-mall.com/>

(shop 'til you go broke)

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**Woodland Hills Camera:** 5348 Topanga Canyon Blvd., Woodland Hills. 888-427-8766. [www.telescopes.net](http://www.telescopes.net)

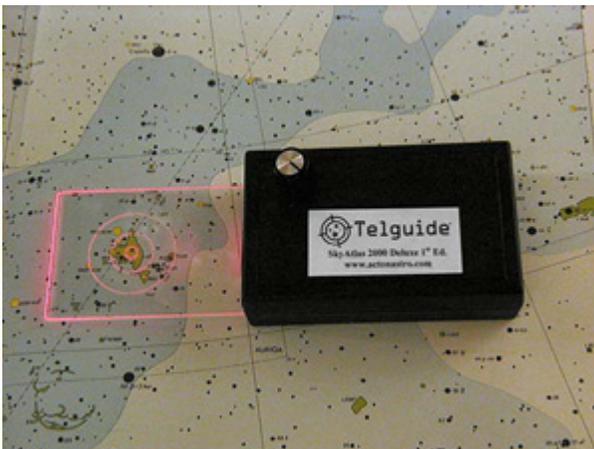
**Astro-tom.com:** Tom is dedicated to amateur astronomy. <http://www.astro-tom.com>

**High Desert Broadcasting:** General Manager, Vicky Connors (661) 947-3107; they assist us in advertising our Club.

**ActonAstro:** Club Web space provided by <http://www.actonaastro.com>

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