

THE BLACK HOLE



ARRL SS Unlimited Team Champs 2000, 2001, 2002

Official Journal of The Society of Midwest Contesters

Volume XVIII Issue III

May/June 2005

Solar Myth

by Dr. Tony Phillips, Marshall Space Flight Center, NASA

There's a myth about the sun. Teachers teach it. Astronomers repeat it. NASA mission planners are mindful of it.

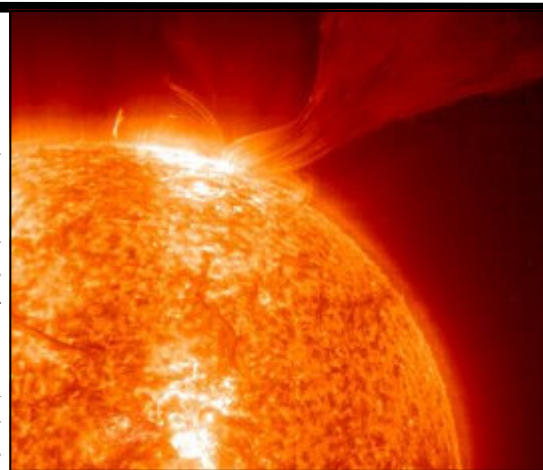
Every 11 years solar activity surges. Sunspots pepper the sun; they explode; massive clouds of gas known as "CMEs" hurtle through the solar system. Earth gets hit with X-rays and protons and knots of magnetism. This is called solar maximum.

There's nothing mythical about "Solar Max." During the most recent episode in 2000 and 2001, sky watchers saw auroras as far south as Mexico and Florida; astronomers marveled at the huge sunspots; satellite operators and power companies struggled with outages.

Now the sun is approaching the opposite extreme of its activity cycle, solar minimum, due in 2006. We can relax because, around solar minimum, the sun is quiet. Right?

"That's the myth," says solar physicist David Hathaway of the NASA Marshall Space Flight Center. The truth is, solar activity never

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A solar explosion in 2001.

Dayton 2005

19 May 05 @ 6:30pm — SMC Hooters Wings party at the Hooters in Centerville Ohio

20 May 05, 12pm-2:30pm — Antenna Technology Forum in the Van Cleve Ballroom of the Crown Plaza

21 May 05, 2:30pm-5:00pm — Contesting Forum in the Van Cleve Ballroom of the Crown Plaza

21 May 05 @ 6:30pm — 13th Annual Contest Dinner in the Van Cleve Ballroom of the Crown Plaza

20-21 May 05 — SMC Hospitality Suite in the Crown Plaza



May 20-22, 2005

The Black Hole



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Membership in **The Society of Midwest Contesters** is open to all persons with a bona-fied interest in amateur radio contesting. The club doesn't collect annual dues, but instead funds everything through member donations. For more information contact one of the following officers:

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SMC Needs Your Financial Support

As one of the top contest clubs in the nation, we continue to sponsor plaques for a number of major contests including Sweepstakes, ARRL DX, CQWW, and CQWPX, as well as make monetary donations in the interest of promoting radio sporting.

A few years ago, we decided to eliminate formal dues of \$10 per year, and instead, maintain funds through member donations. We encourage all members to consider making an annual donation to the club. Your generous donations allow us to continue to expand our support of radio sporting.

You can make your donation two ways:

1. Send a check, money order, or cash to:

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2. Use Paypal at www.paypal.com and email your donation to dues@w9smc.com.

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To get your SMC stuff, see the last page of the newsletter or visit the SMC website, <http://www.w9smc.com/merchandise.htm>



Badges

Order Today!



Shirts

WRTC Raffle

By ARRL Rate Sheet, January 26, 2005

The World Radiosport Team Championship Organizing Committee is pleased to Announce a raffle to win a free trip to Florianopolis, Brazil for "WRTC Week" which will be held July 7th - 10th, 2006. Two

(2) grand prizes will be awarded (each for one (1) person) at the Contest Dinner at the Dayton Hamvention. One prize will be drawn in May 2005 and the second prize will be drawn in May 2006. Each grand prize includes round-trip airfare, hotel



WRTC Fund Raising

By From ARRL Contest Rate Sheet

Jeff, K1ZM, will be at the Dayton Hamvention doing some fundraising for WRTC2006 - the Olympics of Amateur Radio" which will be held in July 2006 in Southern Brazil, including:

- Accepting donations/contributions
- Selling raffle chances for a complete WRTC 2006 travel package to the games - one winner, R/T coach travel, hotel, WRTC 2006 ticket pass and vouchers for WRTC public meals, value \$2000 approx US - Chances are available for \$10 apiece, drawing at the Contest Dinner at Dayton on Saturday night.
- Selling raffle chances on a NEW ACOM 1010 suitcase amp Chances are available for \$10 apiece. Drawing also at the contest dinner on Saturday night.
- Selling WRTC 2006 Official Teeshirts will be available - sizes L, XL and 2XL - for \$20 each
- Selling WRTC 2006 Buttons - \$2.00 apiece - These say "I Support WRTC 2006" and bear the colors of the official Brazilian flag - canary yellow and royal blue.



Dayton Contest Forum

"Getting Started in RTTY Contesting" - Mike Sims K4GMH

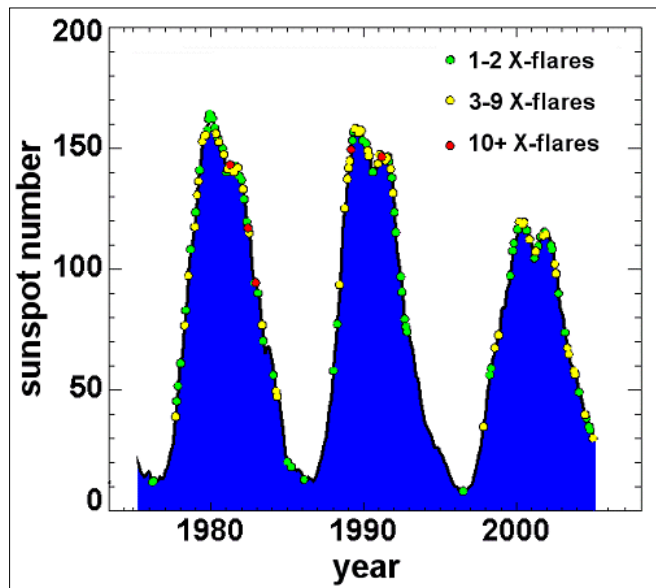
"Contesting from Oceania" - Saty Nakamura, JE1JKL

"Multiop Contesting from West Africa" - Roger Western, G3SXW

"Who needs Sunspots? A comparison of the PC CW contest simulators" - Ulrich Ann, DL2HBX/KK8I

"Recording a Whole Band in a Contest: The Time Machine" - Bill Coleman, N4ES

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The frequency of X-flares during the last three solar cycles. Red dots denote 10 or more flares in a month; yellow dots 3 to 9 flares; green dots 1 or 2 flares. Credit: David Hathaway, NASA/MSFC.

stops, "not even during solar minimum."

To show that this is so, Hathaway counted the number of X-class solar flares each month during the last three solar cycles, a period spanning 1970 to the present. X-flares are the most powerful kind of solar explosions; they're associated with bright auroras and intense radiation storms. "There was at least one X-flare during each of the last three solar minima," says Hathaway.

This means astronauts traveling through the solar system, far from the protection of Earth's atmosphere and magnetic field, can't drop their guard--ever.

Recent events bear this out: Rewind to January 10, 2005. It's four years since solar maximum and the sun is almost blank--only two tiny sunspots are visible from Earth. The sun is quiet.

The next day, with stunning rapidity, everything changes. On January 11th, a new 'spot appears. At first no more than a speck, it quickly blossoms into a giant almost as big as the planet Jupiter. "It happened so quickly," recalls Hathaway. "People were asking me if they should be alarmed."

Between January 15th and 20th, the sunspot unleashed two X-class solar flares, sparked auroras as far south as Arizona in the United States, and peppered the Moon with high-energy protons. Lunar astronauts caught outdoors, had

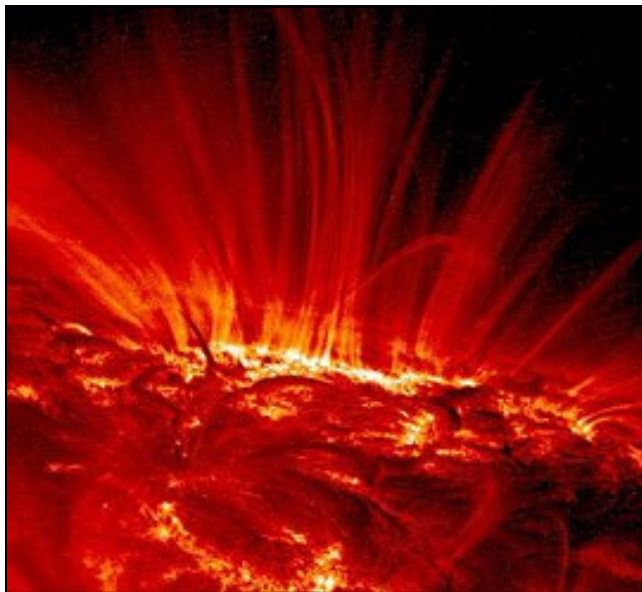
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there been any, would've likely gotten sick.

So much for the quiet sun.

It almost happened again last month. On April 25, 2005, small sunspot emerged and--dèjà vu--it grew many times



This ultraviolet image of a sunspot taken by NASA's TRACE spacecraft reveals the region's complicated magnetic field.

wider than Earth in only 48 hours. This time, however, there were no eruptions. Why not? No one knows.

Sunspots are devilishly unpredictable. They're made of magnetic fields poking up through the surface of the sun. Electrical currents deep inside our star drag these fields around, causing them to twist and tangle until they become unstable and explode. Solar flares and CMEs are by-products of the blast. The process is hard to forecast because the underlying currents are hidden from view. Sometimes sunspots explode, sometimes they don't. Weather forecasting on Earth was about this good ... 50 years ago.

Researchers like Hathaway study sunspots and their magnetic fields, hoping to improve the woeful situation. "We're making progress," he says.

Good thing. Predicting solar activity is more important than ever. Not only do we depend increasingly on sun-sensitive technologies like cell phones and GPS, but also NASA plans to send people back to the Moon and then on to Mars. Astronauts will be "out there" during solar maximum, solar minimum and all times in between.

Will the sun be quiet when it's supposed to be? Don't count on it.

Hooter's Hungry Hundred Club

By AJ9C, Mike Kasrich

Some have asked "what is the Hooter's Hungry Hundred Club". As I think of the answer images of Minute Men firing the shot heard around the world and doughboys going over the top of the trench dance in my head.

The few, the proud, the keepers of the puny signal. That's the H.H.H.C.

If you operate SS with only a 100w transceiver and a dipole or two (maybe even a tribander at 40' with a 1/2 of one element missing) you could be the next inductee into the H.H.H.C.! As you battle and get no respect in your effort to hold a freq. you develop a hunger. What better way to satisfy that hunger than Hooter's. As the saying goes nothing brings a smile to a man's face quicker than Hooter's (trademark registered).

If you think you have what it takes submit your score to the Grand Potentate of the H.H.H.C. after SS has been completed. One inductee for each mode for a high score and one inductee for effort (or a really good story) each mode. **YOU MUST LIST THE SMC ON THE CLUB PARTICIPATION LINE** to be eligible.

Who will the inductees be for 2005? Will the 100w and dipole stations lead us to unlimited vicorty again? Only time will tell. Make you plans NOW!



Special Receiving Antennas for Top Band

By K9CC, George Zurbuchen

In the last issue of the Black Hole there were a number of possible receiving antennas described for the low bands. I would like to add another possibility that worked well for me.

I have always been especially interested in working DX on the low bands. Perhaps it is because the first DX I ever worked as a new ham was Europe on 80 meters. Or perhaps because in 52 years as a ham I have been active through four sunspot minimums, and only two maximums! I have worked all continents mobile in motion on 80 meters with 100 watts, and worked 5BDXCC with the home station. Unfortunately my QTH has a fairly high noise level so I had given up the idea of doing WAC on 160. But

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after I had worked all but Asia on 160 I became determined to snag a JA. My transmitting antenna on 80 and 160 is an inverted vee at 70 feet with home made traps for 160 using the W8NX design program. To copy the weakest signals I had been using my Cush Craft 40 meter rotate-able dipole at 91 feet as a receiving antenna. The signals were weaker than on the inv vee, but the noise was nearly nil. But I felt that I would need a better antenna to hear Asia.

After reading ON4UN's book, "Low Band DXing", I decided to put up a full wave horizontal loop. He reported that a full wave loop close to the ground was very good for receiving on 160. I have a half acre suburban lot, and by utilizing the trees on the perimeter of my lot I had just enough room for 530 feet of wire. I used bungee cords to fasten the wire to the tree limbs. The average height was about 13 feet, and RG-58 was used without any matching network. In using the antenna for receiving on 160 for US and Europe I was not particularly impressed. Sometimes the loop was slightly better, but usually there was no difference. Then one morning I heard two JA's on 160. The first JA was barely readable, but the second was very readable! I would estimate the second JA (JA3ONB) was a good S unit (6db) above the noise. I promptly worked him and then I checked to see how his signal strength was on the inv vee, or the 40 m dipole. Now this is the amazing part; I could not even tell there was a signal there! I would say the loop had about a two S unit advantage. When I switched back to the loop, the JA was again good copy. The loop showed little advantage for Europe, but for Asia it saved the day!

I am always surprised at how far into the daylight hours these contacts with Asia occur on the low bands. Mine always seem to be well after the sun has risen. I once had a mobile to mobile QSO with a VK on 40 meters that occurred so long after sun rise that I appeared to be in total daylight.

A word of caution about having a receiving antenna connected to your receiver while transmitting. I did this during a 160 meter contest while I was running only 100 watts on the inv vee, and had the loop connected to my FT-1000 while transmitting. Even though the inv vee has a high vertical polarization content, and the loop is horizontal, I burned out a couple of resistors in my FT-1000. I ended up replacing surface mount resistors smaller than grains of rice in my FT-1000. I felt like I was doing brain surgery on a gnat.



Jon, K9JS, taking a break from 20 mtrs during the CQWW SSB 2004 M/M at NQ4I



2005 ARRL SSB Team at PJ2T: (l-r) Jerry WB9Z, Geoff W0CG/PJ2DX, Tom AE9B, Jeff K8ND, and Marty NW0L

SMC Stuff

SMC Clip-on Badge

by NV5A

The SMC logo appears at the top-center of the badge in black and white. Your call sign, first name and city & state appear in dark blue. The SMC name badge as shown with the slot & strap with swivel alligator clip, but there are other choices.

Price: \$14.50 (includes s&h).

Order now from **The SignMan**

Visit his full color web page to see other items you can get with the SMC Logo:

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KC9FD

SOCIETY OF MIDWEST

Club badges can be obtained by sending a check for \$5.50 to:

Midwest Engraving
6920 W. North Ave.
Milwaukee, WI 53213

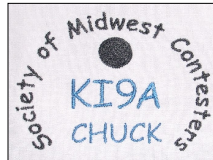
Phone (414) 258-8655
FAX (414) 258-8656

Be sure to note that it is for a "Black Hole" badge and please allow a couple weeks for delivery.



SMC Shirts

SMC short-sleeve Polo shirts are available in two styles: white shirt with "SMC" in black and "name and call" in blue lettering as shown below, or red shirt with black lettering. The cost is \$20, including shipping. You can email your orders to AD9P@swbell.net (Al) or N0UXQ@swbell.net (Sandy)



WRTC 2006

Florianopolis Brazil

8-9 July 2006

Member/New Member Information/ Update Form

Name: _____

Call: _____

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Phone: _____

E-mail: _____

Please send updates to:

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together today!**



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