

### Huntsville Amateur Radio Club Information

#### Club Officers

##### President:

Chris Best, KB3DXR  
kb3dxr@yahoo.com

##### Vice President:

Rolf Goedhart K4RGG.  
k4rgg@arrl.net

##### Secretary:

Robby Lock, KG4PLK  
huntsvilleweather@gmail.com

##### Treasurer:

Heath Thorson, KC4HRX, 325-2507  
hthorson@knology.net

The club's address is Box 423, Huntsville, Ala. 35804. Meetings are held each Friday night at 7:30 P.M. at the American Red Cross Building, 1101 Washington Street. Dues are \$12.00 per year, family memberships are \$15.00 per year. The club maintains a Web Site at "http://www.harc.net"

The North Alabama Repeater Association operates repeaters on 146.34 / 146.94, 147.78 / 147.18, 223.34 / 224.94 and 448.5 / 443.5. NARA dues are \$16.00 per year and may be sent to NARA at P.O. Box 18941 Huntsville, AL 35804-8941.

The club's packet radio interest group, HUNTSPAC, maintains an extensive packet network for the Huntsville area. Dues for use of this network are \$15.00 per year, and can be paid through the HARC Secretary-Treasurer listed above.

The club's ATV special interest group, TVATV operates an ATV repeater. It's input frequency is 439.25 MHz and its output is 421.25 MHz. A voice coordination repeater is operated with output frequency of 145.33 MHz, input 600 kHz down.

The Vox is published the third Friday of each month except for August. Editor of the Vox is Frank Emens, W4HFU, 3714 Lakewood Circle, Huntsville, Ala. 35811 or femens@hiwaay.net. Material of interest to the HARC membership should be submitted to the editor by Wednesday before the third Friday of the month of publication.

"Vox", Vol 47, Nr 5, May, 2007

A Newsletter published monthly except for August by the Huntsville Amateur Radio Club, P.O. Box 423, Huntsville, AL 35804



### Jim Felder, W4NPZ, Silent Key

Jim became a Silent Key the beginning of this week. He was a long time member of HARC and was an Honorary Member. In the early years, he was quite an active participant in HARC activities and in emergency and public service activities. His failing health made it necessary to cease his participation in both kinds of activities. The picture here was made at the 2003 Huntsville Hamfest. He was a dedicated attendee at our hamfests until he had to give it up.

### Report From ARES District 6

Tornado season is already here. Unfortunately, Alabama has already had loss of life from a tornado that slammed into Enterprise when March came in like a lion. Then it went out like a lamb, so we thought. A couple of days into April and Bang! two tough-weather days. I could use your help. As the SKYWARN coordinator for Northern Alabama and Southern middle-Tennessee, I have 13 counties that need to be alert and alive when the next lion comes a-calling'. Here in Huntsville, we have been mighty lucky so far, so we all get a bit complacent. Are you prepared to help out in Madison county or in one

of the surrounding counties when the next SKYWARN net is activated? If you're needed in Marshall county, could you go? Could you setup and operate at a Red Cross shelter there? Would your family be OK here? Got food? Got bottled water? A generator? Emergency meds and supplies? Let me know how you can be part of the District 6 solution during the next disaster.

Some folks have asked me "I only have a Technician license — can I help out?" Of course you can. During a declared emergency, the normal rules are waived, and you can be a part of the Amateur radio solution. You already know how to press the button on your 2 meter rig, It isn't much harder to run WINLINK 2000 from a Red Cross shelter. It takes minimal training, but you need to start now, not 5 minutes after the disaster is declared — that won't do a lot of good. Can you report to the Madison county EMA office if an emergency is declared? Are you an active member of RACES? You should be. That ham ticket that took you so much time to get is a real blessing for your fellow citizens when they need help the

#### CAVEC License Exams

Exam sessions are held at 9:00 AM the first Saturday of each month unless a holiday causes the session to be delayed for one week.

#### *Upcoming sessions are:*

*Saturday, May 5*

*Saturday, June 2*

*For information contact:*

*Larry Frost, KR4GU, 864-3244*

*kr4gu@hamfest.org*

*Org*

*Don Tunstill, W4NO, 536-3904*

*dontunstill@hamfest.org*

*Athens Exam Sessions are held the 3rd Saturday of each month at 1:00. They are held at the Athens EOC.*

*For information contact Bob Hudson, W4RKH, 461-7905*

most. Call Madison county EC, Rolf, K4RGG, and tell him your capabilities. Hey now — Hurricane season is peeking around the corner!

MARS is changing. The Military Affiliate Radio System used to be for sending morale and welfare messages to troops overseas, but now, it has transformed itself into a vital emergency communications organization of 2,600 well-trained and disciplined military operators. MARS has a new memorandum of understanding with the Transportation Security Administration (TSA), to provide emergency communications at certain airports, in case all else fails. There have already been a couple of real-world tests, and the system is working. If you are interested in becoming a proficient net control station, let me know. The Army MARS program is not for everyone, but if you want to become really good at voice and digital operations, this is a good route to take. Of course the ARRL National Traffic System is another good way to learn net operations.

You'll notice my new callsign, and you'll understand why I couldn't resist getting it. I've had several callsigns since 1964, but this will be the last. If you think that Morse code is dead, think again. Any band, any hour, the brass-pounders are alive and well! I'm hoping that you will try PSK-31, MT-63 and WINLINK 2000, in addition to any and every other mode that you can get your hands on. During the next emergency, I won't care if you use tin cans and a string, as long as the message is delivered accurately, and in a timely manner. Our Section Manager, Greg Sarratt, is a D-STAR guru, and could use your help in establishing Alabama as the first state that is D-STAR linked from north to south and east to west. If you haven't sent Greg an email lately, it might be a good time. Let him brag on how D-STAR is really taking off in Alabama! Greg works tirelessly to advance ham radio in Alabama — he's quite a role model. Speaking of thanks, drop a line to Frank Emens, W4HFU. The quality of the HARC VOX, month after month, is because of Frank. Please let

him know that you appreciate his constant work.

Wait till you see Michael Werner's new ARES logo, and his great new website. Michael, KF4BOG, is our District 6 Special Needs Liaison. He works constantly on making himself and our District better. Drop him a line to say howdy and thanks. Also, take a minute and find out how Chuck Lewis, N4NM, is coordinating with different volunteer organizations (VOAD). During the last weather events, I heard KG4PLK, and it's hard not to see that KI4PMW is really stepping up to the plate! Thanks!

I'm looking forward to a trip to Dayton in May! It's best to go there on a full ham-shack - HI! My XYL Diane, KI4LMO doesn't know that I still have this one little-tiny spot in the ham shack where some piece of gear might fit...

HARC ACTIVITY CALENDAR FOR May, 2007						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	1 ATV Net 2000 Check In 145.33	2 SE Linked Rptr Net 2000 +442.775/PL 203.5	3 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	4 HARC Meeting	5 TWIAR  CAVEC Exams, 0900 Red Cross Bldg  Birmingham Hamfest
6 Birmingham Hamfest www.w4cue.com/fest .html	7	8 ATV Net 2000 Check In 145.33	9 SE Linked Rptr Net 2000 +442.775/PL 203.5	10 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	11 HARC Meeting	12 TWIAR
13	14	15 ATV Net 2000 Check In 145.33	16 SE Linked Rptr Net 2000 +442.775/PL 203.5	17 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	18 HARC Meeting	19 TWIAR
20	21	22 ATV Net 2000 Check In 145.33	23 SE Linked Rptr Net 2000 +442.775/PL 203.5	24 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	25 HARC Meeting	26 TWIAR
27	28	29 ATV Net 2000 Check In 145.33	30 SE Linked Rptr Net 2000 +442.775/PL 203.5	31 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	1 HARC Meeting  Election of Officers for 2007/2008	2 TWIAR  CAVEC Exams, 0900 Red Cross Bldg

\*TWIAR -- This Week In Amateur Radio, +442.775 PL203.5 Hz 8 PM Every Saturday  
 ATV Net @ 20:00, Check in on 145.33, Tuesdays  
 Southeast Linked Repeater Net on +442.775, PL 203.5 Hz @ 20:00, Wednesdays  
 Madison County Emergency Net on 34/94 @19:30, Thursdays  
 SkyWarn Net on 147.24 @ 20:00, Thursdays

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Come see us next to Chili's!

Support Our Troops! Send a MARS gram ([www.MARSgram.com](http://www.MARSgram.com)) or an ARRL Radio-Gram (via the National Traffic System) and wish them well. If you get a chance, please check out this DoD website:

<http://www.AmericaSupportsYou.mil>

Remember that freedom is not free, and send a kind thought to our service personnel.

73, Doug Hilton, WD0UG / AAV4YP  
AL ARES District 6 EC ARRL

### Club Shack Cleaned Up!!

Imagine my astonishment at opening the shack door and seeing an operating table with room to operate! Chairs could be rolled around without rolling over things, and cables could be positively identified and either end traced to equipment. Plaudits to all the shack gremlins who made this possible. Let's endeavor to keep the shack neat, and put it on the air as much as possible on meeting nights. Now it will be a pleasure to operate.

Thanks & 73,

Tom Duncan, KG4CIY

### HUNTSPAC Meeting

A HUNTSPAC meeting is scheduled immediately after the regular HARC meeting on Friday, 01-JUN-07 at the Red Cross Building.

If you are a member of HUNTSPAC, you are invited to attend. If you are not yet a member or just interested in attending, come on out and join us.

The ground rules for packet radio have changed with the surge of the Automatic Position Reporting System, commonly known as APRS. Nobody could have imagined what it would do for packet radio in the aftermath. Now we have a system that is inter-linked by various means and continuing to show growing numbers every day.

We have weather nodes at APRS digipeater locations across North Alabama at Fort Payne, Scottsboro, Wilson Mtn, Green Mtn, Research Park, Cullman, Moulton, Colbert County, Limestone County, and expect more sites to add weather stations at their locations. This is not a complete list.

A few years ago who would have believed Packet Radio would fall off and then start growing in leaps and bounds

once again. It is really amazing. Nonetheless, it is a great way to learn about the Internet, satellites, radio, weather stations, SKYWARN, and computers. It is the integration of many systems. Weather bulletins arrive at our APRS displays as they are broadcast from the NWS instantly. APRS users know how far they are from the maximum area of concern as it happens in real time.

We have several items to discuss during the meeting. I have heard several ideas for projects that seem to be very interesting and hope to hear a few more. Please bring some fresh new ideas to the meeting.

The Agenda for the meeting:

1. Notes from last meeting.
2. Available funds for HUNTSPAC
3. Explain the current packet network status
4. Discuss equipment inventory
5. Discuss new packet radio projects and ideas
6. Assign duties as necessary (be prepared to be selected)
7. Assign action items for next meeting

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**ARRL Alabama Section Leadership Team.**  
**Check [www.arrl-al.org/officers.htm](http://www.arrl-al.org/officers.htm) for address and phone info.**

Section Manager: Greg Sarratt, W4OZK, w4ozk@arrl.org  
 Affiliated Club Coordinator: Jeff L OBrien, KV4CX, jeffo@zebra.net  
 Assistant Section Manager for Youth Activities, Rebekah A. Dorff, WG4Y, wg4y@arrl.net  
 Bulletin Manager: William K, Hensley, WG8S, whensley11@comcast.net  
 Alabama Frequency Coordinator - Liaison Alabama Repeater Council: Ron Shaffer, W4VM, w4vm@comcast.net  
 Official Observer Coordinator: Ken Magnant, WA4WEY, kmagnant@att.net

Public Information Coordinator: James Spann, WO4W, wo4w@jamesspann.com  
 Section Emergency Coordinator: Jay Isbell, KA4KUN, sec@arrl-al.net  
 State Government Liaison: Richard D. Doll, KU4PY, ku4py@arrl.net  
 Silent Key Coordinator: Doc Gordon King, W4XI  
 Section Traffic Manager, Melinda F. Alsobrook, KI4CIA, ki4cia@arrl.net  
 Technical Coordinator, Tim Winingar, KY5R, timky5r@direcway.com

We will not solve the world's needs at the meeting but we will keep the agenda on track.

*73, Tim - N8DEU HUNTSPAC  
 Chairman n8deu@amsat.org*

### **APRS using UI-View**

Mark your calendar for Friday, 25-MAY-07, to attend an APRS (Automatic Position Reporting System) presentation. The topic will be the basics of APRS (a very short presentation) and a live demonstration using the UI-View software package.

If you are using UI-View or just getting started in APRS this is a great way to rise up on the learning curve and ask questions about APRS or the UI-View software. Come on down and join in on the fun. What a great way to start the holiday weekend.

*73 de Tim - N8DEU*

### **The New APRS Paradigm Update**

If you are still using the RELAY, WIDE, TRACE, or TRACEn-n routing in your APRS packet path you need to read this article. Otherwise, mold has probably growing on your equipment.

The New APRS Paradigm changes have been in place since early 2005 and what a significant change it has made on the APRS network. We have gone from redundant duplicate packets to no redundant duplicate packets with the changes implemented to the digipeater network.

The significant change was dropping all support for the RELAY, WIDE, TRACE, and TRACEn-n path routing identifiers. They have been replaced. RELAY has been replaced with WIDE1-1 and WIDE has been replaced by WIDE2-1. TRACE and TRACEn-n have been made obsolete completely.

Home APRS stations that still have RELAY programmed for their ALIAS need to change RELAY to

WIDE1-1 to support the New APRS Paradigm which is now 2 years old. There are still a few mobile stations using RELAY and WIDE. If you are wondering why you do not see your station making it to [www.findu.com](http://www.findu.com) (FINDU) then it is highly likely your APRS routing path is out of date.

Why were changes made? There are several differences in the way many TNC brands and APRS programs operate. Unfortunately, those differences were causing unnecessary packet duplication. Thus, a collective gathering of the minds took place on the APRS SIG in early 2005 to come up with a plan that would reduce the unnecessary redundancy and increase the available bandwidth on the APRS network.

For the end user the changes are simple. The paths RELAY, WIDE, TRACE and TRACEn-n are now obsolete. You will find that these paths are no longer supported in many areas throughout North America. So, if you are using these routing paths on your APRS home station or mobile, now is the time to change it because they simple will not work unless another station with mold growing on it has not changed.

The path RELAY has been replaced with WIDE1-1.

The path WIDE has been replaced with WIDE2-1.

Mobile users who currently use a path of RELAY,WIDE or RELAY,WIDE,WIDE should change these paths to WIDE1-1,WIDE2-1. Two hops are recommended for mobile stations unless it takes 3 hops to find an internet gateway. This would be a rare instance. In those cases a path of WIDE1-1,WIDE2-2 would work, but it is discouraged on the APRS network..

Home stations who currently use WIDE,WIDE or WIDE,WIDE,WIDE should change these paths to WIDE2-2. Two hops or less are recommended for

home stations, so WIDE3-3 is one hop over that recommendation.

Most stations do not need to use a path that requires more than 2 hops, especially home stations. Most of the digipeater systems on the new APRS Paradigm will limit paths to two or three hops or ignore them completely if they specify more than 3 hops. This may sound a bit drastic, but APRS has evolved into a new era with all the Internet Gateways available. Once a packet has made its journey to an Internet Gateway it does not need to go any further. That is, unless you need to use a tactical RF path for a specific reason. The Internet Gateways supply the intelligence and link for long paths across the country and around the world.

There is a secondary routing path that limits traffic within the boundaries of the state. This is the ALn-n path. Most weather stations on the network use a path of AL2-2. This is a 2 hop path that will only propagate within the state of Alabama. This is another way of confining traffic so that it does not spill out of the state boundaries.

APRS amazingly continues to grow. Most of this growth is due to the multitude of non-vendor specific equipment and a growing number of 3rd party devices that will interface to almost any brand of radio equipment that is available for utilization.

*73 and Happy Packeting!  
 Tim - N8DEU*

**Don't Forget OTN, FD,  
 Election Night and  
 Huntsville Hamfest/ARRL  
 Convention will be here  
 before you know it!**



## Activities Planned In Conjunction With The Convention/Hamfest.

### GAREC-2007

[Http://www.iaru.org/emergency/garec2007.html](http://www.iaru.org/emergency/garec2007.html)

Global Amateur Radio Emergency Communications Conference, August 16-17 in Huntsville, Alabama.

### Reception Honoring Frank M. Butler Jr, W4RH,

Saturday, August 18, 4-7 PM at the Embassy Suites Hotel Shhh...it's a surprise! Frank M. Butler Jr, W4RH, is the ARRL Southeastern Division Director. The ARRL Alabama Section is proud to host this reception, honoring Frank's dedication and longtime service to ARRL and Amateur Radio. Come and celebrate with us!

### D-STAR Users Reception

Saturday, August 18, 6-8 PM at the Embassy Suites Hotel The Alabama D-STAR group will sponsor a users group meeting and reception. New and experienced D-Star users are invited to attend. Learn about D-STAR networks, and meet other users and digital technology experimenters.

### ARRL Section Managers Meeting

Saturday August 18 at the Embassy Suites Hotel (time TBD)

### ARRL EXPO

For additional information see,  
<http://www.arrl.org/announce/nc/2007/huntsville.html>

### DX Banquet

### Huntsville Hamfest/ARRL Convention Web site

[www.hamfest.org](http://www.hamfest.org)

### Alabama Section web site:

[www.arrl-al.org](http://www.arrl-al.org)

*73, Greg Sarratt, W4OZK ARRL Alabama SM*

hamburgers, hotdogs, cold drinks. Everyone can bring a covered dish and some lawn chairs to rest in. There will be a donation can somewhere on the tables. Donations will be \$2.00 a person. As far as I know right now, we are going to have it at the Space and Rocket Center, the same as last year. Hope to see you there. CUL

### A Story or Two

**INNOCENCE IS PRICELESS** One Sunday morning, the pastor noticed little Alex standing in the foyer of the church staring up at a large plaque. It was covered with names with small American flags mounted on either side of it. The seven year old had been staring at the plaque for some time, so the pastor walked up, stood beside the little boy, and said quietly, "Good morning Alex."

"Good morning Pastor," he replied, still focused on the plaque. "Pastor, what is this?" he asked the pastor.

The pastor said, "Well, son, it's a memorial to all the young men and women who died in the service." Soberly, they just stood together, staring at the large plaque.

Finally, little Alex's voice, barely audible and trembling with fear, asked, "Which service, the 9:45 or the 11:15?"

### An Impromptu Party By Kathy Baker

"Oh, Kathy! I didn't even know you were in town, and you brought your doggie to visit me too." Marvene exclaimed. Her beautiful, beaming smile and upbeat attitude welcomed us into her room at Lakepoint Nursing Home. Prior to my mother's death, Marvene had been my mother's roommate in the nursing home. She was a great source of strength and comfort to me as my mother slowly drifted away, and has remained a very special friend. Hoping to surprise her, I had tiptoed in unannounced with Shiloh, my miniature schnauzer. Marvene's aged eyes danced with glee as she reached out to stroke Shiloh.

In her younger days of independence and good health, a pet had always warmed Marvene's heart and home. Hoping not to cause too much commotion, Shiloh and I had ducked in the back entrance. I wanted to avoid the bustling hallways since I feared wheelchairs and such might make my dog skittish. After a lap or two around the room and sniffing everything in sight, Shiloh settled in as if she had visited umpteen times.

Then an unexpected onslaught of residents began filling the room. Word had spread like wildfire - there was a pooch on the premises! Aides accompanied folks in wheelchairs, ambulatory residents shuffled in with walkers and canes, and several oxygen machines and IV poles were rolled in to boot. Even a few staff members followed the slow-moving stampede as they wondered about the unusual ruckus in the north wing.

Shiloh relished being center stage and greeted each new visitor with total delight. This rambunctious young dog was more gentle than I had ever seen. She knew instinctively that her new friends were delicate and that she must act like a lady. I wondered why she couldn't behave like that at home!

The evening progressed into an all-out impromptu party. I was thrilled to see Shiloh provide such joy at the end of another humdrum day in the lives of these frail folks. Each resident could hardly wait to get his or her hands on a "real live critter!" They were alive with smiles and giggles. Nevertheless, eyes brimmed with tears while speaking of pets they had adored in days gone by. One tiny lady arrived and judging by the blank, distant look in her eyes, she was obviously confused. The aide at her side was attempting to explain

## The Giggle Box

HAPPY BIRTHDAY TO EVERYBODY THAT WAS BORN IN MAY!!

A note from Giggles: I thought that I had over-slept this weekend and missed summer altogether. I couldn't believe how cold it was Sunday morning. This next weekend, the weather is supposed to more like spring. Also remember that Mother's day is coming up soon, so think about something special you can do for your mom, wife, sister, etc.

By the time that Field Day rolls around, we will wish that we had a little cold snap. Speaking of Field Day, we are going to have a picnic on Saturday around 4:00pm. There will be

about pet visiting, but she appeared not to grasp one word.

Then she spotted Shiloh! As if by magic, this bitsy little gal was transformed before my very eyes. She instantly became alert and began reciting tales of pets she had loved in her younger days. All the while she gently stroked Shiloh, stopping her stories only long enough to plant kisses right on top of Shiloh's head. Yes, Shiloh sensed she was "good medicine" for her new but fragile friends.

Once the party ceased and the room emptied, she snuggled in my lap with her eyes fixed on the door. I knew she was thinking, "Doesn't anyone else need to see me? Hey, I can even do tricks for you!" It had been a two-way street - the oldsters were also good medicine for Shiloh, since canines are never happier than when pleasing humankind.

I gave Marvene a hug and a peck on the cheek, Shiloh gave her a wet, sloppy kiss on the tip of her nose, and we said our good-byes. Walking out, I felt a smile on my face and a spring in my step that hadn't been there earlier in the day. I began praising Shiloh for her excellent behavior, and when I glanced down - she was prancing.

**The Hint for the Month of May**  
When you use self-stick shelf paper, don't tear off all the backing. Instead, cut it to fit and only tear the backing off around the edges. It slips easily into place and when you want to remove it, you don't have sticky residue left on the shelf.

**Thought for the Month of May** No matter how small and unimportant what we are doing may seem, if we do it well, it may soon become the step that will lead us to better things. - Channing Pollock -

**Solve the puzzle:**

**CSEERXIE NAC TTCARSID ROUY**  
**DNMI AAYW OMRF RYOWR**

*Peggy Bell (Giggles) K4EGB*  
*pbell@hiwaay.net*

## **Alabama Hamfests**

This month will be a busy month for Alabama Hamfests!

### **Mobile Amateur Radio Club**

Amateur Radio Hamfest & Computer Show April 21 2007 - 8AM to 3PM  
<http://www.w4iax.com/>

### **Turkey Heaven Mountain Swapfest**

Trickum Valley Recreation Center  
Hwy 46 Cleburne Co. Al April 21 2007 -

8AM to 3PM additional information,  
<http://www.arrrl-al.org/hamfest.htm>

### **Bankhead ARC**

Fifth Annual Tailgate Party, April 27

### **Birmingham ARC**

Birmingham Hamfest, May 5 and 6,  
[www.w4cue.com/fest.html](http://www.w4cue.com/fest.html)  
for information

Please support our hamfests! I will see you there!

*73, Greg Sarratt, W4OZK*  
*ARRL Alabama Section Manager*

## **Don't Throw Away The Paper Charts Just Yet.**

*By Randolph E. Schmid*

WASHINGTON - The Global Positioning System, relied on for everything from navigating cars and airplanes to transferring money between banks, may be threatened by powerful solar flares, a panel of scientists warned Wednesday.

"Our increasingly technologically dependent society is becoming increasingly vulnerable to space weather," David L. Johnson, director of the National Weather Service, said at a briefing.

GPS receivers have become widely used in recent years, using satellite signals in navigating airplanes, ships and automobiles, and in using cell phones, mining, surveying and many other commercial uses. Indeed, banks use the system to synchronize money transfers, "so space weather can affect all of us, right down to our wallet," said Anthea J. Coster, an atmospheric scientist at the Haystack Observatory of the Massachusetts Institute of Technology.

The cause for their concern, Johnson said, was an unexpected solar radio burst on Dec. 6 that affected virtually every GPS receiver on the lighted half of Earth. Some receivers had a reduction in accuracy while others completely lost the ability to determine position, he said.

Solar activity rises and falls in 11-year cycles, with the next peak expected in 2011.

If that increasing level of activity produces more such radio bursts the GPS system could be seriously affected, the researchers said.

And protecting the system is no simple task, added Paul M. Kintner Jr., a professor of electrical engineering at Cornell University, who monitored the December event.

There are two possible ways to shield the system, he said, both very expensive. Either alter all GPS antennas to screen out solar signals or replace all of the GPS satellites with ones that broadcast a stronger signal.

That's why it's essential to learn more about the sun's behavior quickly in an effort to find ways to predict such events, the researchers said.

In addition to the GPS system, the December solar flare affected satellites and induced unexpected currents in the electrical grid, Johnson said.

"The effects were more profound than we expected and more widespread than we expected," added Kintner.

Dale E. Gary, chairman of the physics department of the New Jersey Institute of Technology, said the burst produced 10 times more radio noise than any burst previously recorded.

The difference between that burst and normal solar radio emissions "was like the difference between the noise level of a normal conversation and the noise level in the front row of a rock concert," he said.

"This is a wake-up call" to improve technology, commented Anthony J. Mannucci, group supervisor at NASA's Jet Propulsion Laboratory.

Patricia H. Doherty, co-director of the Institute for Scientific Research at Boston College, said the burst affected but did not shut down the Federal Aviation Administration's Wide Area Augmentation System, which uses GPS signals to assist in navigation. Most of the WAAS ground stations were able to maintain contact with enough satellites to continue working, though their accuracy was somewhat affected, she said.

The stations have to maintain contact with at least four satellites to work, but usually monitor at least 10 to increase their accuracy, she said. Most were able to meet the minimum, she said.

The briefing came at a Space Weather Enterprise Forum convened by the National Oceanic and Atmospheric Administration to discuss the effects of solar activity. Because of its increasing importance, Johnson said, the Weather Service's Space Environment Center was converted from a mainly research center in 2005 to an operational center reporting on solar activity and its impacts.

*Provided By Bob Luther, KG4LOQ*

### From The Editor's Wastebasket

We have some interesting 'stuff' in this month's Vox. I hope we can keep this kind of interest in the newsletter going. One thing I think we need someone to do is write a piece on Fox Hunts, describing how they are done and what techniques are usable for sniffing out the Fox's location. We've had a couple of good programs on the topic, but it would be useful for folks to have access to a written version of the information for reference.

It may seem early, but the Hamfest/ARRL Convention will be upon us before we realize it. Include it in your plans now to make your effort to support the event and take part in all that it offers. We'll include an insert in each issue until then to clue you in on what to look forward to at the event. Be looking for info from both the League and the Hamfest Committee.

Even sooner, we'll find that FD is upon us. There was a pretty good discussion on FD plans at the meeting on Friday April 13. The site is not pinned down yet, but plans are under way.

Even sooner than that, we'll find that it is time for election of officers to guide

the club during the remainder of 2007 and the first part of 2008. Give this matter some serious thought. We have a lot to look forward to in the coming year and we will need a leadership crew that will keep us focused on what we've got to do.

Don't forget, Friday night, April 27th is Old Timer's night. We seem to be losing Old Timers at an alarming rate (Jim Felder, W4NPZ being the latest) and we need to recognize the folks who have contributed to the existence of HARC. I was going through some old photographs a few weeks ago and came up with the picture included here. I think it was of the crowd assembled at an Old Timer's Night some years ago. Best I can figure, there are 6 people shown in that picture who are no longer with us.

Another thing we need to think about -- we are losing Honorary members of HARC. That struck me when I realized that Jim Felder was an Honorary member. It has been some time since we elected any Honorary Members. We need to give some consideration to members who have provided service to HARC in recent years that are deserving of the honor. A couple of folks come

to mind immediately. It would be a good thing to elect some folks to that status either at OT's Night or at election night the first Friday in June. We shouldn't put it off too long. I have always been a little concerned about our use of the term "Honorary Member" because in other applications, an honorary member of a group is usually not really a member of the group, but is selected for the honor. In the case of HARC, an honorary member is first a regular member of the club. He or she is elevated to Honorary Member status in appreciation for things done for the club. The main perk of the Honorary Member status is that you no longer are expected to pay dues. You have, in effect, a lifetime membership in the club.

More bad news. Irene Hughes, wife of Cuz Hughes, W4SVM/W4ZS has passed away. Many of you will remember Cuz and his many contributions to HARC and ham radio in general. One of Cuz's special interests was in Elmering younger hams. I was informed of her passing by Bob Fanning, K4VB, who I believe was one of his Elmeres.

*73, Frank Emens, W4HFU*

