

# County Hunter News

July 1, 2012  
Volume 8, Issue 7

Welcome to the On-Line County Hunter News, a monthly publication for those interested in county hunting, with an orientation toward CW operation.

Contributions of articles, stories, letters, and pictures to the editor are welcomed, and may be included in future issues at the editor's discretion.

The County Hunter News will provide you with interesting, thought provoking articles, articles of county hunting history, or about county hunters or events, ham radio or electronics history, general ham radio interest, and provide news of upcoming operating events.

We hope you will enjoy the County Hunter News. Feel free to forward, or provide links. Permission is given for copying or quoting in part or all provided credit is given to the CHNews and to the author of article.

CW County Hunter Nets run on 14.0565, 10.122.5, and 7056.5, with activity occasionally on 3556.5 KHz. Also, there is SSB activity now is on 'friendly net' 7188/7185 KHz. The cw folks are now pioneering 17M operation on 18.0915. (21.0565, 24.9155, and 28.0565 when sunspots better). Look around 18136 or for occasional 17M SSB runs usually after the run on 20M SSB. (21.336 and 28.336)

You can see live spots of county hunter activity at [ch.W6RK.com](http://ch.W6RK.com)

For information on county hunting, check out the following resources:

The USACA award is sponsored by CQ Magazine. Rules and information are here:  
<http://countyhunter.com/cq.htm>

For general information FAQ on County Hunting, check out:  
<http://countyhunter.com/whatis.htm>

MARAC sponsors an award program for many other county hunting awards. You can find information on these awards and the rules at:  
[http://countyhunter.com/marac\\_information\\_package.htm](http://countyhunter.com/marac_information_package.htm)

[The CW net procedure is written up at:](#)

There is a lot more information at [www.countyhunter.com](http://www.countyhunter.com) . Please check it out. Back issues of the County Hunter News are available at [www.CHNewsonline.com](http://www.CHNewsonline.com)

Want county lines on your Garmin GPS?

<http://pages.suddenlink.net/w4ydy/hamlinks.html#County>

Download the file to a flash card that fits in your GPS unit, turn it on, and the county lines should appear!

De N4CD, Editor (email: [telegraphy@verizon.net](mailto:telegraphy@verizon.net) )

## Notes from the Editor

1 ) **Propagation** – it's been a challenging month for propagation. Many days the A index was well up in the teens. With the increased sunspot activity and headed toward the 'peak' of the sunspot cycle, we are seeing lots of CMEs and raised A index conditions. That means spotty propagation (you hear certain distances and directions) where you don't even hear half the mobiles some days – or maybe even all of them.

Worse, 40M as you head into the sunspot cycle typically gets 'shorter' but with high A index, you have even worse propagation there. With the QRN from summer thunderstorms, it can be a real challenge to catch new ones. You also have lots of QSB.

Rick, AI5P, was up in AK. When you have geomagnetic disturbances, they are even worse further north. He did have a few days where the A index wasn't sky high, but it was very challenging to hear him and work him.

More on the sunspots later in this issue.

2 ) **Correction** – last month we showed a picture of Michelle, KD8GWX, who was at the County Hunter Forum. She said she was 'with' Clark, N8CBW. I put 2 and 2 together and got five on his one. Michelle is a ham radio club friend of Clark. His wife is Margaret, who is not yet a ham (He'll have to work on her). Sorry for the mistake. Maybe the two of them will go out and run some local counties one of these days.

3 ) **Spotting** – It seems there are regular spotters, but also lots of folks who watch the spots, and never spot themselves. It's a bit disappointing, especially when you are mobile, to have five or six loud stations all eager to be the first to work you, but not a one of them takes the time to spot. Paul, WB2ABD, was one of the regular spotters on all bands CW – he's on the injured reserve list right now, so others are going to have to fill in for him. It's not that hard to spot, folks!

### **Mobile Activity in late May/June**

Bob, K0PVW took a trip to MO and back, putting them out on SSB. Also spotted over in KY. Later ran around KS a few weekends.

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Ron, K2RP was in WI, through MN, and headed west to ID and points west. Then down through CA to home eventually.

He wrote:

“Returned home yesterday after 8 weeks and 8700 miles through 21 states. This was our first long trip with CHing activity. Won't be our last. All those whom we helped with needed counties owe it to my supportive and patient wife, who did the lion's share of the driving, especially during CW runs. A highlight for me was meeting and dining with many of the group at Dayton “ (K3IMC forum post) .

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Mike, KA4RRU was out and about in VA. Later in the month he took a trip up to Cecil MD running them up and back.

AE7KI started in WA and headed into WY - on SSB

Fred, K0FG was out and about in KS and NE headed west to AZ. Later in the month he returned headed back east – running them on SSB and CW.

Jim, ND9M was spotted in IN then later over KY then wound through WV running the whole state on cw and SSB. Back in KY and TN. Got a LC WBOW for K1TKL in GA later in the month.

Joyce, N9STL headed west in the motorhome to SD, then back later putting them out in NE, KS, IL.

Dan, AA0TT, in the Big Rig, was spotted in many states and counties.

KC7YE, Jack, was about in WA putting them out on CW and SSB

Don, K3IMC put out GA counties. He headed over to AL for a few.

Norm, W3DYA put out some in TX on cw.

John, KE4UP started up in ME and headed south. SSB

Larry, W7FEN, took a trip from CO to NE

Bob, W0BH, continued his trip from the east coast back to KS.

Seth, N3MRA, was out and about in the Big Rig.

Dave, KE3VV spotted out and about in FL. Later in the month he headed back to DC.

N7LFX, Larry, spotted out in CA.

Ron, KA3DRO continued on his trip – ran a bunch in NM headed back east. Over 10,000 miles of driving and lots of new transmitted counties for him.

Gene, K5GE left south TX. Headed to Branson MO for a day or two, then headed to WI and MN through IA and KS back toward TX.

Wes, NX4C spotted in TN.

Art, N4PJ, headed to OK the county hunter way. While in OK, ran a few out to Harmon, OK and back, then up to KS and eventually back to FL.

WB4KZW, Gene, spotted in DE and other states.

Jim, K0ARS made a trip to AR and LA.

N5AWE , Earl, spotted out in AR

Mike, W0MU, took a trip out to MT. Ran on 17m a lot with quite a pile.

Jerry, W0GXQ, took a trip to west ND and back in 2 days.

Rick, AI5P, flew to AK and planned to cars in each district. Ran on 20, 30, and 40m. As of mid June he had completed 1<sup>st</sup> AK, 3<sup>rd</sup> AK, and was headed to 4<sup>th</sup> AK.

Ron, KB6UF, and left ME hitting some in NH, all of VT, down to the NYC area including running NY, NY, then down to the Philadelphia area to get one of the last two for AI, KG5J, then through WV to KY to TN to home.

Tony, WA9DLB, headed west through parts of NE and down to IA

Matt, W0NAC, and Barry, N0KV, took a two day trip around eastern CO putting them out on SSS, CW, PSK61 and other data modes. Took a side trip to Wallace, KS

Doug, WA4UNS, was busy in NC and AL putting them out.

Dave, KW1DX, took a trip over to New London, CT and back.

Scottie, N4AAT, headed over to GA for a few. He got the LC WBOW for AB7NK.

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Ron, KA3DRO, continued his trip back to the east coast putting them out.

Ron, KA3DRO reported on his trip:

“arrived home Friday..... great trip! 10,307 miles .... left Florida with my girlfriend and returned without a girlfriend....but did gain a wife! ( stop off in Las Vegas for a few hours!) “

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Dan, KM9X and Judy, KB9MGI took a long trip to SC. He reported:

“Thanks to all those that helped, especially just making a contact to get the required 3 per

county per band... ran 82 counties, got 54 that qualified for Mobile Diamond transmits, with Jerry, Ron and Gene running, I picked up about 100 MD total with the ones I ran. Down to 1388 for MD.. Got 10 new counties for 4th time, down to 232 now.. over 2100 miles with a new total off 125,520 miles county hunting. Ran 5 new counties, making 1634 unique and 5762 total counties put out. A second to last WBOW surprise. The 7 hrs sitting in traffic in a week and a half was about the only bad part. Beach was great. “

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Bob, K0PVW was busy putting some out in KS.

Kerry, W4SIG ran a whole bunch in MS. He travels for work and heads that way frequently.

Don, AE3Z, returned from WI running them back to home.

K5GE, Gene, took a trip up to IA and circled back to TX

Don, W0EAR was about in MN.

Tony, WA9DLB, was spotted over in IA on a trip.

K0PFV, John, was spotted in OH and IN

N0KV/W0NAC team took a trip and covered the east half of CO, putting them out on five modes, and ran SSB and CW of course. Took a side trip to Wallace KS (LC WBOW for N4CD).

Doug, WA4UNS was spotted in AL, and ran NC counties on a few excursions.

Greg, KG5RJ spotted in a few in TX.

Stan, AC8W was spotted on SSB in MI.

Dave, KW1DX ran a bunch of RI and over into CT to get a 'rework' in New London for AB7NK.

Rufus, KD4HXM spotted in a few in GA.

Paul, NU4C, ran a lot of MD on a trip north.

K4ZGB, a state QSO party regular, headed west running them on CW – many times up or down from net frequency on 20M.

Dave, KE3VV, took a day trip down to central VA to run some.

NX4C, Lloyd, spotted all over in GA running PSK and SSB. Spotted on 17M SSB, too.

WB5KIA spotted in a few in TX on SSB

Kerry, W4SIG headed out to AR on another trip.

Barry, N0KV, and Pat, N0DXE, headed out to WY - seem to have forgot the CW key at home.

End date – 6/22/2012

## Trip Report – from W7FEN

At the end of May Rita and I went on a Road Scholar Program in the Black Hills of SD. Check-in time was May 27 @ 5:00. So we departed home early Saturday morning and headed north to WY where we picked up I-80 over to Kimball, NE. At Kimball we headed north to Hot Springs and Fall River, SD.

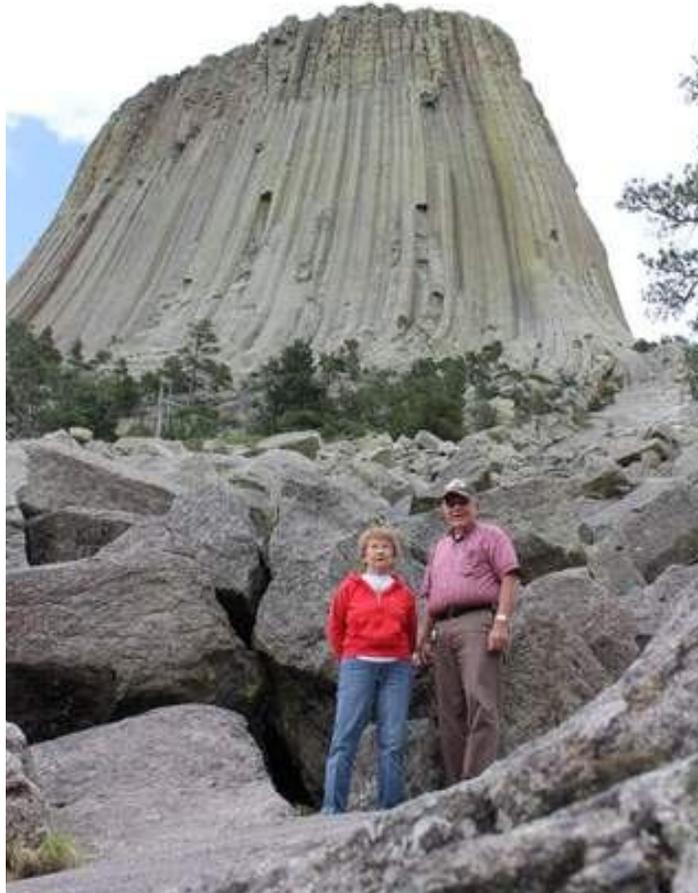
Ran:

NE Kimball, Banner, Scotts Bluff, Box Butte, Dawes.

SD: Fall River

All were new for me to transmit from except one. The next morning head over to Wyoming to run Niobrara and Weston Counties. We got together with WY7LL & WY7ML in Sundance where Leo and Chris treated us to lunch. Since we didn't have to be in Keystone, SD until 5:00 Leo suggested they take us up to Devils Tower.

On the way up there, Leo pulled off the road to look for a geo cache. He said it had to be in the end of the guard rail, and I finally spotted it. It was very well hidden, Leo signed and dated and we were on our way.



Larry, W7FEN and Rita at Devils Tower

We enjoyed our trip up to Devils Tower and when we had to leave Leo and Chris went into the ice cream parlor. We made a mad dash for Keystone and arrive just as they were getting started.

While we were in Keystone we learned more than we can remember about the area. We started of by going to Custer State Park with lunch at the Wild Life Center. Naturally the bandits held our progress up for awhile. We were in luck the Program Leader had brought several bags of corn to pay the bandits off with. Several people got of off the bus and feed the wild burros.



Then we visited Crazy Horse museum on the way back to K bar S. Wednesday was a field trip to the Bad Lands with lunch at Wall Drug. In the evening the group went up to Rushmore and took in the lighting ceremony. Thursday morning we went back up to Rushmore and spent a few hours touring. Rita and I took the Presidents Walk, so we got several different views of the sculptures.

Friday there was train trip to Hill City, SD and lunch at the Alpine Inn. What a great dinner we had. That evening we had our departing dinner. For anyone that plans on spending more than a day in the Keystone area I'd highly recommend the K bar S for lodging.

On June 2<sup>nd</sup> we got out about 1300 and drove south to pick-up Custer, SD and then headed for Carter, MT. running Pennington, Lawrence, Butte\*, WY: Crook. On the county line of WY Crook and MT Carter I was kept very busy on 20 SSB and then 40,30,20,17 meters on CW. I was really surprised at the number of contacts that I had on 17M. After Carter, MT we ran the following counties in SD: Butte, Lawrence, Meade, Ziebach, Haakon, Jackson, Bennett. NE: Sheridan, Sheridan, & Box Butte spending the night in Alliance, NE.

Next morning I started out with Box Butte, Morrill, Garden, Deuel. CO: Sedgwick, Phillips, Yuma, Kit Carson, Lincoln, Elbert, El Paso, Teller. It was a good trip with-out any really problems. One nice thing about it was I work a lot of stations and hope that I was able fill-in a lot of blanks for them. Several other mobiles out also so I garnered able 300 new counties for myself. What a way to start off on working all counties again.

Everybody plan ahead for the National Convention in Dogwood 2013. The area is very scenic and rich in Western History.

# Carbon Nanowiggles

Electronics are getting smaller and smaller, flirting with new devices at the atomic scale. However, many scientists predict that the shrinking of our technology is reaching an end. Without an alternative to silicon-based technologies, the miniaturization of our electronics will stop. One promising alternative is graphene — the thinnest material known to man. Pure graphene is not a semiconductor, but it can be altered to display exceptional electrical behavior. Finding the best graphene-based nanomaterials could usher in a new era of nanoelectronics, optics, and spintronics (an emerging technology that uses the spin of electrons to store and process information in exceptionally small electronics).

Scientists at Rensselaer Polytechnic Institute have used the capabilities of one of the world's most powerful university-based supercomputers, the Rensselaer Computational Center for Nanotechnology Innovations (CCNI), to uncover the properties of a promising form of graphene, known as graphene nanowiggles. What they found was that graphitic nanoribbons can be segmented into several different surface structures called nanowiggles. Each of these structures produces highly different magnetic and conductive properties. The findings provide a blueprint that scientists can use to literally pick and choose a graphene nanostructure that is tuned and customized for a different task or device. The work provides an important base of knowledge on these highly useful nanomaterials.

The findings were published in the journal *Physical Review Letters* in a paper titled “Emergence of Atypical Properties in Assembled Graphene Nanoribbons.”

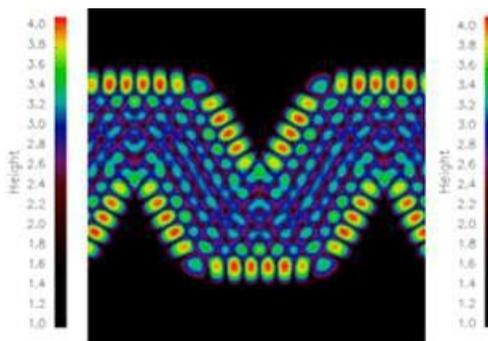
“Graphene nanomaterials have plenty of nice properties, but to date it has been very difficult to build defect-free graphene nanostructures. So these hard-to-reproduce nanostructures created a near insurmountable barrier between innovation and the market,” said Vincent Meunier, the Gail and Jeffrey L. Kodosky '70 Constellation Professor of Physics, Information Technology, and Entrepreneurship at Rensselaer. “The advantage of graphene nanowiggles is that they can easily and quickly be produced very long and clean.”

Nanowiggles were only recently discovered by a group led by scientists at EMPA, Switzerland. These particular nanoribbons are formed using a bottom-up approach, since they are chemically assembled atom by atom. This represents a very different approach to the standard graphene material design process that takes an existing material and attempts to cut it into a new structure. The process often creates a material that is not perfectly straight, but has small zigzags on its edges.

Meunier and his research team saw the potential of this new material. The nanowiggles could be easily manufactured and modified to display exceptional electrical conductive properties.

Meunier and his team immediately set to work to dissect the nanowiggles to better understand possible future applications.

“What we found in our analysis of the nanowiggles’ properties was even more surprising than previously thought,” Meunier said.



The scientists used computational analysis to study several different nanowiggle structures. The structures are named based on the shape of their edges and include armchair, armchair/zigzag, zigzag, and zigzag/armchair. All of the nanoribbon-edge structures have a wiggly appearance like a caterpillar inching across a leaf. Meunier named the four structures nanowiggles and each wiggle produced exceptionally different properties.

They found that the different nanowiggles produced highly varied band gaps. A band gap determines the levels of electrical conductivity of a solid material. They also found that different nanowiggles exhibited up to five highly varied magnetic properties. With this knowledge, scientists will be able to tune the bandgap and magnetic properties of a nanostructure based on their application, according to Meunier.

“We have created a roadmap that can allow for nanomaterials to be easily built and customized for applications from photovoltaics to semiconductors and, importantly, spintronics,” he said.

By using CCNI, Meunier was able to complete these sophisticated calculations in a few months.

“Without CCNI, these calculations would still be continuing a year later and we would not yet have made this exciting discovery. Clearly this research is an excellent example illustrating the key role of CCNI in predictive fundamental science,” he said.

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Note de N4CD.....CCNI is the SuperComputer Center that is run by RPI for the consortium –

one of the largest IBM Super Computers in the world.

## On the Road with N4CD I

The Hamcom Hamfest, the largest in TX, is held in early June each year. It's a two day Friday/Saturday event which is 8 miles from my QTH. It doesn't get any more convenient! About 7000+ folks show up for it.

We had some nice rain that cooled the temps down. I was up at 6 am and grabbed some breakfast before heading over to the flea market. Folks were already set up – the sun comes up at 6:30 am, the official start time is 7am, but most of the Friday folks were already busy getting things set up. It was a nice 70 degrees out with lots of clouds.

I wandered around the outside flea market – you can see everything in 20 minutes, then go back and look even more closely, below the table, in the boxes at the bottom for any goodies. There were Heathkits and a few Kenwood/Yaesu radios for HF. Even two Sixers and a Twoer if you want them, a Utica 650 6m AM mobile transceiver, a lot of WW2 ARC 5 transmitters and associated receivers there. I didn't see any county hunters on Friday. Then again, there's quite a crowd of folks milling about.

I did find one 'goodie' for my collection outside – A Philmore '20 in 1 transistor experimenter' likely from the late 1950s or early 60s. It had one transistor that you could hook up for an audio oscillator, an audio amp for a crystal radio, etc. It used 'building blocks' you hooked together with jumper wires.

At 8am, the doors open and I headed inside to the inside flea market. There was a Gonset G-66 mobile receiver with a seized tuning knob, more Kenwood radios, piles of crystal control 2m radios (you can't give them away – no PL tones for repeaters), some larger handhelds, one nice Collins 32S3 in a travel case, loads of new things from vendors, but not much that caught my eye.

Gene, K5GE was running up in KS. By 9am I decided to be back home and chase him in the Mobile Diamond counties..missed the first one he ran, but got the next six. Slowly KS is being filled in by the folks. Some are down near 300 to finish for the new Mobile Diamond award. It's likely to be another year before anyone is closing in. Many of those needed ones will get run with the mobiles headed west for the convention. Gene left KS a few hours later and it was back over to the hamfest for a few more hours. Not many new flea market folks came. By noon, it's getting hot outside but the inside is cool.

The Plano Radio Klub had set up a Special Event station at the hamfest – K5P. I operated it for about 45 minutes, but the station set up had S9 noise which made it very hard to work much with the Buddy-Pole antenna. (Collin County). The rig had no cw filter and no key. Darn. It was on for the duration of the hamfest intermittently. The A index at 17 didn't help much either!

Chuck, NO5W, who just moved to New Orleans, was there promoting the TX QSO party held at the end of September each year. He indicated he plans to go mobile in the MARAC Counties Party in July – so be listening for him. He's also planning on running in the KS QSO party this summer too, likely with N5NA. He's got a nice set up each year showing what counties were covered in the TQP, the results by category, pictures, etc. He runs in the LA and MS QSO parties as an active mobile. I guess we can put him in the County Hunter category, but he is not chasing counties, just giving them out, or working others in state QSO parties.

There's programs held both days, so I took in a few of them over the weekend. I headed back home Friday at 3pm – it was really hot out in the flea market – there's no shade and lots of concrete – and some had already packed up for the day. It was up near 90 deg but with relentless sun and the concrete radiating heat.

On Saturday it was back over to the hamfest to see if more goodies had shown up. Yes, outside there were another dozen sellers – with more Collins gear, more surplus type gear, a Regen Radio Shack 3 transistor AM/Shortwave radio for \$20, but not much else to get my wallet open.

There was a WRL Duo-Bander for 40/80M – the tank circuit was messed up....and it had no name on the front panel. It almost looked like a proto-type radio, but the controls and dual knob were the same as pictured on actual units. We've shown that in the CHNews before.

When the insides opened, it was back inside for two sweeps of the flea market there. I did buy a speaker to fit in one of my radios where the speaker was an option (The Heathkit All Wave 1948 regen). I knew it took a fairly small speaker but this time I remembered to measure the spacing of the mounting studs.....and found one to match. \$1.50 for it. There were quite a few Ten Tec Radios for sale. I dunno – it seems you see a lot of one brand of radios at a given hamfest. Some days it is Swan radios. This one had at least six different types of TenTec radios up for sale.

Here's a few pictures of some of the gear



Comaire Six and Two Meter Antenna Matcher



Ten Tec 540 Transceiver



Ten Tec Omni- C



TenTec Jupiter



Ten Tec Argosy



Ten Tec Triton IV Station and Accessories

Check out some rare Ten Tec Radios at:

<http://home.comcast.net/~w8kc/tentec.html>

Did you know that in the 1970s, Ten Tec made a TUBE transmitter (T-100) for Novices? The matching receiver – the R-100 – was solid state using a direct conversion design.

Ten Tec has made QRP modules way back when, and the Argonaut series QRP transceivers. The 505 and 515 still go for good prices for a 5W radio

Here's a comprehensive list of just about every Ten Tec model with pictures of many of them

<http://www.qsl.net/tentec/>

## Carbon Capture Causes Earthquakes

Carbon capture and storage schemes (CCS) are more likely to trigger earthquakes, warns the

US National Research Council (NRC). Meanwhile, a separate study warns that quake-fractured rocks could undermine CCS efforts by allowing the trapped gas to leak back into the atmosphere.

Carbon sequestration involves pumping CO<sub>2</sub> at high pressure below ground and trapping it in porous rocks at depths of 1 to 4 kilometers. Similar deep injection wells are used to dispose of waste water, but despite the large number of such wells, "very few [seismic] events have been documented over the past several decades", writes an NRC panel in a new report, *Induced Seismicity Potential in Energy Technologies*.

However, carbon capture and storage could see billions of cubic meters of fluid injected below ground – potentially enough to trigger more and larger quakes, the report concludes.

Even if those quakes do not damage property or put lives at risk, they could undermine carbon capture schemes, says Mark Zoback, a geophysicist at Stanford University in California. "If you trigger an earthquake, you are threatening the seal of the repository," he says. "CO<sub>2</sub> is buoyant and it wants to rise and get out."

Although it is possible to find good sites to store CO<sub>2</sub> where its added pressure would be unlikely to cause quakes or leaks, too few are available to handle the required volume, Zoback says. Older sedimentary rocks in the central US, where most power plants are located, are brittle and so are more likely to fracture and leak. Large-scale carbon capture and storage "is a risky, and likely unsuccessful, strategy" for controlling greenhouse warming, Zoback says. He presented his concerns yesterday to the Senate Energy Committee.

"It's quite possible that quakes may be induced, but that doesn't mean that all the CO<sub>2</sub> leaks out," says Stuart Haszeldine, a carbon capture and storage researcher at the University of Edinburgh, UK.

Journal reference: *Proceedings of the National Academy of Sciences*,

# Alabama QSO Party

This was another great state QSO party. The mobiles were out and running and conditions were fairly decent on 20 and 15 meters for the contest. Regular county hunter Ed, KN4Y, was up in AL putting out the southern part. Other mobiles from out of state were running all over the central and northern parts. Not many (almost no) contacts made on 10M, and 6m had some E-skip but not any contacts it seems. Out of state stations made 100Qs into AL, and some of the AL stations had 500 plus QSOs.

There were at least 4 mobiles, with AD8J, KN4Y, N4ZZ and K4ZGB putting them out.

## **WQ5L/p - Mobile AL - 188 CW QSO**

Brought a radio and multiband dipole to my wife's apartment to give out some points from in-state. Apologies to those I couldn't hear -- the RF "hash" from all the nearby power lines and electronic devices was intense.

10 meter Es was kicking much of the day judging by the plethora of beacons but all of my CQing yielded just one Q. 73,

## **AD8J mobile 883 cw 98 ssb 15 counties**

Conditions were so good on 40 and 20 that I never made the move to 75/80. This was my first experience with having a dedicated driver. We made a few wrong turns which changed the order of counties a bit. The KW mobile performed perfectly with no equipment problems. Biggest problem was finding the foot switch for SSB. Finally ended up holding it in my lap and closing it with my hand.

## **N4KG Limestone, AL 381 cw 201 SSB**

As usual, I set my log up for Both CW and SSB mixed, but this time I actually made some phone contacts.

I started out on 20M CW Low Power but somewhere along the line turned on the Amp in order to break through the pileups to other Alabama stations via backscatter. I've never worked so many Alabama stations in this event!

At 2332Z, N4PN asked me to go to SSB on 20M which I did. We worked on 14245, and then someone else called me. ONE HOUR Later, I switched back to CW after entering 157 Phone QSOs. Obviously there were many more willing callers on SSB than CW where I had 3 hours around 60 Qs and 5 hours around 30 Qs. After Dark, I could only generate small and short runs on the Low Bands. I couldn't aget anything going on 40M SSB or 15M SSB (probably went to 15M too late).

20M had AMAZING E-layer Short Skip and Back-Scatter, producing LOTS of QSOs with GA,NC,SC,TN,VA,W2,3,8,9,5.

### **N4ZZ mobile 1543 cw Multi-Op**

This was our third mobile operation in the ALQP, and this one way exceeded our expectations. We took the same route as the past 2 years, making it through 28 counties (550 miles).

Signals started out rather weak, but improved throughout the day. Before dusk, 20m really opened up to everywhere, including unusually short skip into adjacent states.

Our best hour was from 0100z to 0200z with 173 contacts. Below are the stations worked 20+ times during the contest, many thanks you guys for keeping us so busy.

W0BH was always there, and had a booming signal on both 20 and 40m. Way to go Bob. Top DX was YV5OIE. Both our signal were not very strong, however he was quick to find us before the pileups when we changed bands. Nice job Tony.

The ALQP has become one of our favorite contests of the year. Alabama has great roads, plenty of counties, and they sure know how to put on a QSO Party. Thanks for all who worked us, and especially to Jim KC4HW and the Alabama Contest Group.

We sure enjoyed the contest.

Jim - AD4EB  
Don - N4ZZ

Melody - KI4HVY

Oh yes, many thanks to Melody for spending her Saturday driving Don and I all over Alabama. It makes a big difference, we owe you big time.

73 - Jim - AD4EB

**KN4Y mobile 684 cw contacts**

“Up and Down band conditions, operated from 15 Southern tier counties, total mileage 789 miles, worked 41 States and 4 Provinces. I cannot pass a rest area. 15-meters was open but worked only one station on ten. DX arrive late and strong. This always a great QSO party. Most contacts in a county is the 71 in Choctaw.

**N4PN – GA 140 cw 51 SSB**

Who would have "thank it"!

Alabama 20 over 9 on 20m....thanks to the short-skip, the E's, or whatever, this was a lot better than I could have hoped for..

Thanks to the mobiles, as always....it would have been a long day except for the "road-runners", headed up by one of the best. Thanks Don, N4ZZ and your crew for 30 Q's, followed by John, AD8J with 18 and Ed, KN4Y, 14; Tom, K4ZGB 9. Thanks to John, WA3JA, for coming into Alabama late in the day for two new ones on SSB.

**W0BH - Kansas 180 cw 76 cw**

Great conditions into Alabama from Kansas the entire day. For a good part of the day, I could easily work (at the same time of day) 40, 20, and 15 with no ESP contacts .. amazing actually! It would have been fun to put a lot more 15m contacts into the mobile logs, but the mobiles were probably too busy with the short skip on 20.

Since I'm mixed mode, I usually find out early which mobiles will go from CW to SSB. It took me too long to figure out that AD8J/m was happy to do so, but once I did we had fun. Operating CW is my favorite mode, but in QSO parties with mults by mode, the CW ops might consider an occasional switch to SSB for those who request it during slow times. I heard all the mobiles calling unanswered CQs and I know from experience that the fun level goes up when you can use those times to make a few SSB contacts with your loyal followers (who really appreciate it and will generally only ask if they need the mult near the end of the contest or if you're the only one in the county). Of course you can still enter as CW-Only by putting the SSB Qs in a checklog. Some of my most memorable times in QSO parties come from these short SSB exchanges. Please don't take this as a critique on the CW-Only mobiles. It's just something to think about and perhaps try sometime.

Terrific job by the mobiles as usual! My numbers with all the CW mobiles were up from previous years :

52 N4ZZ/m - thanks for posting your timed schedule .. it paid off!

31 AD8J/m - consistently loudest signal into Kansas on all bands.

19 K4ZGB/m - always easy to find (as were several others).

18 KN4Y/m - thought I'd missed you in HOUS until the end!

03 KJ5SO/m - Robert was just heading west on I-20.

02 N3FU/m - thanks for Barbour!

01 KC0CL/m - visiting AL from KS.

Overall, I worked (mixed) 60/67 counties missing only those in the northeast: CHMB CLAY CLEB COOS DKLB JKSN RAND. This year, I put CREN and TDEG in the log, which completes a three year Sweep! I worked 82 unique calls. At one point, I noticed N4ZZ/m, K4ZGB/m and AD8J/m all in ELMO at the same time!

Condolences to KC4HW and your YL's family. We missed you in the mobile but we all understand and enjoyed working you from your home QTH. Thanks for the hard work you and the ACG do to make the AQP such a success, Jim.

Lorna and I just got back from a trip to NC, SC and Florida, returning through ten Alabama counties. It was fun "visiting" them all again during the AQP. Until next year when there's a chance I might be joining you all from in-state.

73, Bob, w0bh

**K4ZGB mobile 560 cw**

Thanks for the patience. I'm a little slow on the keyboard.  
Also had a few delays with computer, probably an RF issue.  
I covered 15 counties and don't think I will try that again.  
Thanks to all for following me through the day.

**KD8IGK portable**

“Worked as a portable operation from the USS Alabama Battleship (Mobile County)  
10 DX Contacts, 26 different states including Hawaii. Spent most of my time on  
15M.”

## Solar Storm “Katrina Event”?

John Kappenman, 55, an obscure electrical engineer from Duluth, Minnesota, is determined to save civilization from the mother of all blackouts. If he succeeds, the daily life of billions around the world will continue undisrupted. But if he fails, we may well suffer on a scale that makes even World Wars seem trivial in comparison.

Over the past thirty years, Kappenman has accumulated a vast and compelling body of evidence indicating that sooner or later a major blast of EMP (electromagnetic pulse) from the Sun, a space weather Katrina, will knock out the electrical power grid and bring society to its knees.

"Historically large storms have a potential to cause power grid blackouts and transformer damage of unprecedented proportions. An event that could incapacitate the network for a long time could be one of the largest natural disasters we could face," he declares. A bluff, friendly man, half science nerd, half overgrown farm boy, Kappenman insists that solar EMP blasts the size of those that occurred in 1859 (before society was electrified) and 1921 (before the power grid had developed to the point where it played any significant role) would today result in large-scale blackouts lasting for months or years.

Kappenman was a major contributor to the landmark report, *Severe Space Weather Events: Understanding Societal and Economic Impacts*, published by the National Academy of Sciences (NAS) in December, 2008. Founded by Abraham Lincoln during the height of the Civil War, the NAS is the closest thing there is to a Supreme Court of scientific opinion for the United States, and much of the rest of the world.

"Electric power is modern society's cornerstone technology, the technology on which virtually all other infrastructures and services depend... Collateral effects of a longer-term outage [such as would almost certainly result from a massive space weather event] would likely include, for example, disruption of the transportation, communication, banking, and finance systems, and government services; the breakdown of the distribution of potable water owing to pump failure and the loss of perishable foods and medications because of lack of refrigeration. The resulting loss of services for a significant period of time in even one region of the country could affect the entire nation and have international impact as well," says the NAS report.

More than 100 million Americans could be affected by this blackout for months or years. Recovering from a future severe magnetic storm would cost \$1 to \$2 trillion per year-- ten to twenty times the cost of Katrina. Of course, the damage would be immeasurably worse if such a massive, protracted catastrophe were to touch off social unrest sufficient to undermine the agencies and institutions in charge of the reconstruction effort.

Unlike most doom prophecies, this one has potential for a happy ending. As examined further on, there is a comparatively quick and economical way to defend against solar EMP. "Sunblock for the grid" recommendations are at the core of the GRID bill, HR-5026, passed UNANIMOUSLY by the U.S. House of Representatives this June. No mean feat in today's poisonously partisan climate. But the true day of reckoning will probably come later on this summer in the United States Senate, where things are not looking very good at all.

### **The World's Largest Lightning Rod**

The world's power grids, of which the United States has the most extensive, have in essence become giant antennas for space weather blasts. Just as a lightning rod attracts any lightning bolts that might otherwise strike a roof, the power grid, which is designed specifically to be extremely efficient at conducting electricity, attracts space weather bolts. Problem is that, unlike lightning rods, the power grid is gravely vulnerable to such shocks.

So how would a solar blast keep your toilet from flushing? By disrupting the power grid system at its weakest point: the transformer. Transformers receive power from high voltage transmission lines which in turn receive their power from substations directly connected to the main power plant, be it coal, oil, gas, hydroelectric or nuclear. High voltage transmission lines, the ones held up by those big Y-shaped metal trellis structures that can be seen stretching along the highway, carry the current as far as 300 miles. The farther the distance, the higher the voltage required, just as more water pressure would be required to produce a steady, reliable stream of water out of a long hose than out of a short one. (Volts are essentially units of pressure, while amps are units of volume. The simplest analogy is to water: volts would measure how hard the water rushes out of the hose, amps would measure how much water is flowing.) The power from the transmission lines is fed into the transformers, whose job is to then step it down from the level of hundreds of thousands of volts to tens of thousands of volts, then split the current into several directions via a device known as a "bus." The bus sends the electricity through the network of power lines one sees everywhere held up by utility poles. Transformers in communities then drop the voltage down to levels used in homes and

businesses, so the flow of electricity requires transformers at many points in the network and if transformers are damaged, then no electricity can flow. The power lines feed into businesses and homes, most of which rely on electric pumps to supply the water necessary to flush one's toilet, unless, of course, the electricity has been shorted out.

Transformers in the United States operate at levels as high as 765kV or 765,000 volts in the United States and up to 1000kV in China. Transformers in Europe typically use lower voltages, in the 400KV range. The higher the voltage processed by a transformer, the narrower the tolerance for error and the more vulnerable it is, therefore, to the extra electrical jolt that would come from the GIC's (geomagnetically induced currents,) caused by solar EMP.

According to Kappenman's research, a repeat of the geomagnetic storm that occurred in 1859 or 1921 would see the copper windings and leads of the 350 or so of the highest voltage transformers in the United States melt and burn out. These transformers connect nearly one third of the entire US power grid infrastructure, damage levels of unimaginable proportions from any other threat. Transformers weigh over 100 tons apiece and usually cannot be repaired in the field, and because of their size they cannot be flown in from overseas factories where they are now made. In fact, most transformers damaged by space weather incidents cannot be repaired at all, and need to be replaced with new units. Currently, the worldwide waiting list for transformers is about three years, and about half of those made fail either in test or prematurely while in service.

"We've been stacking risk multipliers on top of risk multipliers. The scientific community has developed a false sense of security regarding the power industry. We've got to preserve our capability and prevent wide spread catastrophic damage to this vital infrastructure!" declares Kappenman.

So why haven't we been zapped yet? There was no power grid to zap to speak of until 1950's. Before then, each city had its own generators, but there was no significant swapping of power from one city to the next. Today, megawatt loads zip instantaneously around the North American grid. The growth of what is known as open access transmission, whereby larger and larger amounts of energy are whizzed around the grid to meet consumer demand, makes it all the likelier that a sudden and unexpected injection of GIC electrical energy could blow out the system. Stressing the power grid with heavier and heavier loads, while good for profits and energy savings, does seem like tempting fate, given the looming danger of solar EMP assaults.

### **Sleeping through the Wake-up Calls**

"We have already slept through at least one wake-up call, the geomagnetic storm of 1989," Kappenman contends.

On March 13, 1989, two solar blasts each about a tenth the size of the ones that hit in 1859 and 1921 knocked out the Hydro-Quebec electrical utility, causing it to go from fully operational to complete shutdown in 92 seconds. On the computer simulation, the blast looks like giant red, toothy mouths taking bites out of the top of the Northern Hemisphere. Millions of customers in Quebec lost power but within nine hours power was restored. No big deal in the grand scheme of things. True, a number of nuclear, oil and coal-powered plants as far away as Los Angeles

subsequently reported transmission anomalies, but nothing blew up, although one large transformer at a Nuclear plant in New Jersey melted.

Another wake-up call came on Halloween, October 31, 2003. Kappenman was testifying before the Environment subcommittee of the House of Representatives Science Committee on the impact of the blackout of August 14, 2003 and potential impacts for severe space weather. The August 2003 blackout, not space weather related, is believed to have cost between \$4 billion and \$10 billion in repairs and collateral economic damage. As luck would have it, the day of Kappenman's testimony turned out also to be a day of a powerful solar storm, known in space weather circles as Halloween 2003.

"During breaks in the Committee meeting, I was frantically sending out email advisories about the storm," Kappenman recalls.

The solar flares for the Halloween 2003 event was much more powerful than the March 1989 storm, but its impact was less severe because it struck mostly at the poles, and did not swoop down as far south into populated areas. Nonetheless, Halloween 2003 did cause a brief blackout in Malmo, Sweden, and also fried fourteen 400 KV transformers in southern South Africa. In part because of the difficulty in recovering from the Halloween 2003 transformer burnout, South Africa has since had enormous problems supplying electricity to its customers, to the point where basic commerce and security have been impaired.

It turns out that the grid can be protected from solar EMP devastation by outfitting it with surge suppressors, much like the ones that protect our computers and plasma televisions at home. In a nutshell, solar EMP blasts hit the Earth and discharge massive electrical currents into the planet's surface, some of which current surges back up and into the grid. Surge suppressors placed between the surface and the transformer would protect the transformer from the space weather-induced electrical currents coming up from the ground.

Each surge suppressor would be about the size of a washing machine, and would cost \$40,000-\$50,000 apiece; with some 5,000 transformers in the North American grid, that works out to \$250 million or so, according to Kappenman's reckoning. Let's say this estimate is overly optimistic and that the inevitable cost overruns occur. Even if the final price tag for protecting the power grid from space weather attacks ends up being more in the \$500 million range, that's less than 0.3% of what it cost to bail out AIG for gambling on toxic mortgages, or 1.0% of what Bernie Madoff is said to have bilked from his investors. Given that electrical industry revenues in the United States totaled approximately \$368.5 billion in 2008, according to the Department of Energy's Energy Information Administration, a one-time space weather security surcharge of less than 0.2% should amply fund the surge suppressor project. With around 115 million households in the United States, this surcharge would work out to less than \$5 per.

Money is not the problem. Indeed, resistance to the surge suppressor program is less about budget than the culture of the power industry, an antiquated crazy quilt of public and private companies, commissions and authorities, regulated state by state, though often serving multi-state consumer bases, with technical specifications vetted by a variety of different professional

organizations. The reason for this mishmash is that the North American power grid was not constructed as such, but rather is composed of local and regional power systems that have coalesced into a grid over the past century.

The real impediment, one might observe, is the resistor built into the psyche of the electrical utility industry, which spends only between 0.3% and 2% of its revenues, depending on the estimate, on research and development. This meager proportion puts it almost dead last compared to other major American industries, less than the pet food industry according to Wired.com magazine. Computer and pharmaceutical manufacturers reinvest 10% or more of their revenues or more in R&D.

The utility industry's objections to implementing a space weather defense program are thus more inertial than economic. Why go to all the trouble of preventing a space weather blackout when no (serious) one has ever happened, at least not in the United States? Then, there's the commonsense reluctance to complicate a system that has thus far functioned so admirably. Inserting surge suppressors would also require installing high speed switching circuits to bypass the transformers when necessary, yet another "moving part" that could potentially break down. Aggravating matters further is the inescapable fact that the more complex the network, the less control grid operators have over it.

"We have had no recognition of this potential space weather problem in our power grid network design codes, though we do take into consideration many other environmental factors such as wind, ice, lightning and seismic disturbances," says Kappenman, who draws an analogy between securing the power grid in this manner and adding seismic retrofits to buildings before the hazards of earthquakes were fully understood.

Once installed, the surge protector system should be capable of preventing at least 70%-75% of space weather-related power grid failures in the event we were hit by the equivalent of the great geomagnetic storms of 1859 and 1921. Such protection would mean the difference between major inconvenience and societal collapse. In 2008, the surge suppressor program was recommended to Congress by Electromagnetic Pulse Commission which, as noted, has since lost its funding.

Mayan prophets and New Age doomsayers harkening to that perhaps fateful year would not be surprised to further learn that the current solar cycle climaxing in 2012 bears an uncanny resemblance to the one that produced the 1859 mega-blast, a repeat of which would almost certainly destroy our way of life for years, perhaps decades, to come.

Source: Huffington Post

## Latest List of Attendees – Convention 2012

List as of early June as to who is planning on attending!

Anthos Paul WB2ABD  
Barber Bruce KL7D  
Beedlow Peter NN9K  
Beedlow Nancy N9DQS  
Bingham Leo WY7LL  
Bingham Chris WY7ML  
Bird Cliff AC0B  
Bird Kathy XYL  
Bonham Milt KY0E  
Bonham Ellen N0CWX  
Boothe Joyce WB9NUL  
Boothe Barry W9UCW  
Clift Ron N5MLP  
Clift Evelyn XYL  
Courtney Larry W7FEN  
Courtney Rita XYL  
Crampton Ray AB4YZ  
Devine Bob KC6AWX  
Dummler Terry WQ7A  
Dummler Boni XYL  
Fenstermaker James K9JF  
Fenstermaker Shirley W7SAF  
Fuss Bob W4OWY  
Flynn Don K3IMC  
Flynn Jean KJ4NIT  
Ford Linda AA6MR  
Ford Clay KF6SNF  
Grandinetti James KZ2P  
Grew William WG9A  
Grew Sandy XYL  
Hallock Bob K7TM  
Hallock Vonnie WA7YEI  
Harris Rick AI5P  
Lynch Don KA1YZV  
Lynch Barbara XYL  
Matthew Robert W0NAC  
Matthew Sharon N0LXJ  
Melinosky Ted K1BV  
Melinosky Betty XYL

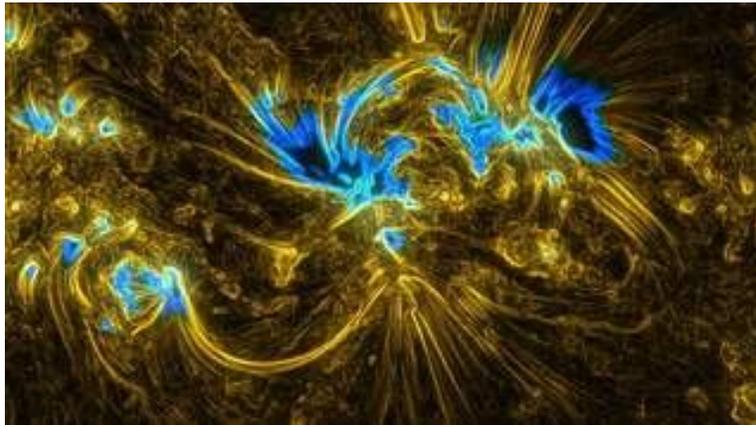
Mitchell Barry N0KV  
Mitchell Pat N0DXE  
Napier Jeffrey AF3X  
Napier Vickie WV8LNX  
Duval(Napier) Karrina  
Nelson Paul N7JFP  
Nickolaus Michael NF0N  
Nickolaus Dianne XYL  
Olig Gene KD9ZP  
Olig Dottie K9FDL  
Ordway Walt K1DFO  
Reinke Kent KL1V  
Rider Doug KC7JC  
Rider Marilyn XYL  
Rookaird Jack KC7YE  
Salinas George KD4FJ  
Schue Jerry K7KWO  
Schue Kathy KD7KWM  
Schuler Wayne AI9Q  
Splitt David KE3VV  
Tennyson Lowell KB0BA  
Tennyson Sandra N0XYL  
Thorne Karen WB9ZNA  
Vince Neil K7SEN  
Vince Mary AB7NK  
Voss Bob N4CD  
Woody Robert N8KIE  
Woody Jaclyn XYL  
Yasson Phil AB7RW  
Yasson Barbara AC7UH  
Yohe Frank AA9JJ  
Yohe Kay N9QPQ

## NASA Sun Picture

Nasa's Solar Dynamics Observatory is an 'eye' in space focused on the sun - but its scientists have found an all-new way of looking at the star that gives our planet heat and life.

Don't be deceived by the calming blues and browns - the boiling surface of the star is around 600,000 degrees centigrade, just viewed through a wavelength that highlights the constant activity.

'There's no science behind it,' says Scott Wiesinger of Goddard Space Flight Centre, 'But it looks very pretty.'



Solar Surface – SDO satellite

This video takes SDO images and applies additional processing to enhance the structures visible,' says a Nasa spokesperson.

'While there is no scientific value to this processing, it does result in a beautiful, new way of looking at the sun.'

The original frames are in the 171 Angstrom wavelength of extreme ultraviolet which shows plasma at around 600,000 Kelvin.

The space age has coincided with a period of unusually high solar activity, called a grand maximum.

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Higher Resolution Pics and Story at:

Read more: <http://www.dailymail.co.uk/sciencetech/article-2149705/Nasas.html#ixzz1vt9GwpCw>

## Museum Ships on the Air

The weekend of June 2 was Museum Ships on the Air days. Over 100 ships, from battleships to destroyers to submarines were on the air, probably most on SSB. I noted two and spotted them. One was K1UNS (the Watson Museum) and the other was KC8JMS in Toledo on the bulk carrier USS James Schoolmaker.

K1UNS website

<http://www.k1usn.com/>

KC8JMS website

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

Here's a list of all the stations that were expected to be on the air. Did you catch any of them?

<http://www.nj2bb.org/museum/>

Anyone remember the visit to the ship in Michigan when we had the National in northern MI? The icebreaker Mackinaw?

Did anyone catch WW2SUB on the Batfish? (guess what kind of ship that was – hi hi – isn't that a great call?)

In between waiting for mobiles to get to their next counties, hunting down special event stations can put some interesting stations (and call combos) into the log and maybe even a needed county.

KD8IGK portable was on the Battle Ship Alabama in the AL QSO party, too.

Here's some pics from the 2009 Museum Ship on the air operation

<http://n4trb.com/AmateurRadio/MuseumShips/2009/BB60.htm>

W00OG reports working 30 Museum Ships – most on 40m SSB.

Here's an interesting site of Navy radios - nice pages on the keys used by the Navy, transmitters and everything else radio and Navy

<http://www.navy-radio.com/index.htm>

## More Obama Greenie Corruption

New disclosures show that one of President Obama's bundlers is the wife of an executive at an energy company that received a more-than-\$1.2 billion Department of Energy (DOE) loan guarantee for a solar power plant.

Arvia Few is a bundler for the Obama re-election campaign who has promised to raise between \$50,000 and \$100,000. She began bundling for Obama in the first quarter of 2012. Her husband, **Jason Few, is an executive at a company that has benefited handsomely from the Obama administration's clean energy spending, records show.**

The U.S. Department of Energy granted NRG Solar a \$1.237-billion loan in September 2011 to help build NRG's California Valley Solar Ranch, which is described as "a 250 MW alternating current PV solar generating facility" by the U.S. Department of Energy.

"This investment and its outcome represent a pattern in which the Obama Department of Energy took promises of technological development with an undue amount of credence," says energy expert Kenneth P. Green, a resident scholar at the American Enterprise Institute.

"On any given day, there are hucksters who say they can power the world. Unfortunately, there

was also an administration that wanted to believe their claims,” Green said. “One has to assume that the administration was more likely to believe the people it knew.”

Other financial interests tied to the Obama administration have also invested in NRG Solar.

Warren Buffett’s MidAmerican Energy holds a stake in **another NRG project that received a \$967 million Department of Energy loan guarantee.**

DOE announced a \$967 million loan guarantee to NRG in August 2011 for its \$1.8 billion Agua Caliente Solar Project. The multiple DOE loans did not stop NRG Energy from reporting a first-quarter 2012 loss of \$206 million.

“When you talk to a lot of people on the environmental left, there’s a deep desire to believe that wind and solar power can help us replace fossil fuels,” Green said. “It’s a naiveté that permeated the administration.”

Source: <http://freebeacon.com/bundler-of-sunshine/>

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Billions and billions of taxpayer money down greenie rat holes (the well connected bundlers, bundlers wives and husbands, Warren Buffet, and the whole raft of Obama sycophants. Money that you'll never see again as Obama does 'public equity investing' of the worst kind, while bashing 'private equity' (Bain Capital and others) who use PRIVATE money, and use it successfully, to create real actual jobs that won't disappear in 2 years as the companies go bust.

## AB7NK – The Push to the Finish

**Date: End of 2011**

Mary, AB7NK, has a conversation with Matt, W0NAC about finishing up. She needs about 175 counties to go to finish up her USA-CA as 2011 comes to a close. She was spending a lot of time on the 20M net hunting for new counties. They come, but not all that fast. Matt and she talked about how Mary could get them done in a year or so, maybe by the upcoming convention in South Dakota in 2013.

She was talking with her husband Neil, K7SEN, USA-CA holder #825 , and he said that if she finishes up, they'll head to the convention to meet all the county hunters. He didn't say which one.

That resonated well, and she was determined to see how fast she could work the remaining 175. That can take quite a while until all those missing counties eventually get run. Some folks have been hung up at 30 or 20 to go for what seems like years just waiting for those counties to be run.

I also noted that Mary decided to brush up on the cw skills. Occasionally she'd be heard on the CW nets, working a new county or getting one in a state QSO party where many are run only on CW.

She started filling in lots of missing blanks. Nearly every day, she was a regular on the 20M SSB net, often helping run the mobiles or doing 'double relays' for them. She checked the cw runs and got some that way, too.

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Date Line: March 2012 About 30 to go

Scottie, N4AAT, decides to give her a little encouragement and urge her to finish up – this year. Scottie wanted to rally the county hunters to get her done by THIS convention out in Vancouver. A few arms and legs are pulled. Just like the county hunters worked out a way to get Ralph, WB4FFV, finally finished up with lots of folks making trips to fill in the blanks in his book, we'd do the same for Mary.

Folks checked the needs page to see if they could help. A few others forwarded suggestions for county hunters in counties, or from fixed stations that show up.

If you search W6RK for a county, state – you can sometimes find useful information. Was there a fixed station spotted in the state QSO party there? Was there a mobile there regularly? If you find some leads, you can plug them into QRZ and see if there is an email, and how many 'hits' a station has. If you find someone with thousands of hits – there's a good chance he/she is very active. Better yet if they actually filled out some bio on QRZ.com . And don't forget to check the MARAC database, either.

Depending how desperate you are, even if there is no email in QRZ.com, but it appears someone is active with many hundred hits or thousands of hits – you can take the name and city and try plugging it in White Pages Directory. That will 'sometimes' give you a phone number and you can call looking for a sked. If they can't do it, maybe some other ham they know can?

Mary got a couple of those last ones on skeds including Grant, LA and Tolland, CT ( from K1BV. )

Then it was down to the under 20.

Let's see – a few 'honorable mentions' of some trips:

1 ) Paul, WB2ABD, planned a trip to get Fulton, NY. Before he could make the trip, he broke his hip and wound up in the hospital. He told Mary not to worry, he'd get down there shortly, broken hip or no. Fortunately, Ron, KB6UF could take a detour to get there on his way back from Maine.

2 ) Ron, KB6UF, hit eight of her last on the way back from Maine, zigging and zagging along the way.

3 ) Don, AE3Z fired up the mobile and got 2 in NY on his way west to MN

4 ) Jim, N4JT made a special trip up to Patrick, VA for her

5 ) Jerry, W0GXQ, took a two day trip out to the far reaches of ND, and caught Ramsom and Sargent for her

6 ) Don, K3IMC made two trips – one to fill in a 'rework' and another to get Cherokee, AL

7 ) N5KGY traveled over to Holmes, MS, a last county there.

8 ) Bob, N8KIE, took a detour when he was in GA on his way back from FL to fill in Banks.

9 ) Dan and Judy, KM9X and KB9MGI, got 4 counties in KY for her.

It was now down to the wire

10 ) Ron, KB6UF, headed over to Livingston, LA to snag that one for her.

11 ) Dave, KW1DX trekked on over to New London, CT - a 'rework' for a county where no MRC was coming back despite repeated tries.



N4AAT – Candler GA – LC WBOW AB7NK

Then, Scottie, N4AAT, who had twisted a few arms and worked with others to get her finished up – went to her last for the WBOW – Candler, GA and they had a successful QSO on 6/12/12. N4AAT at Candler, GA - LC WBOW for AB7NK

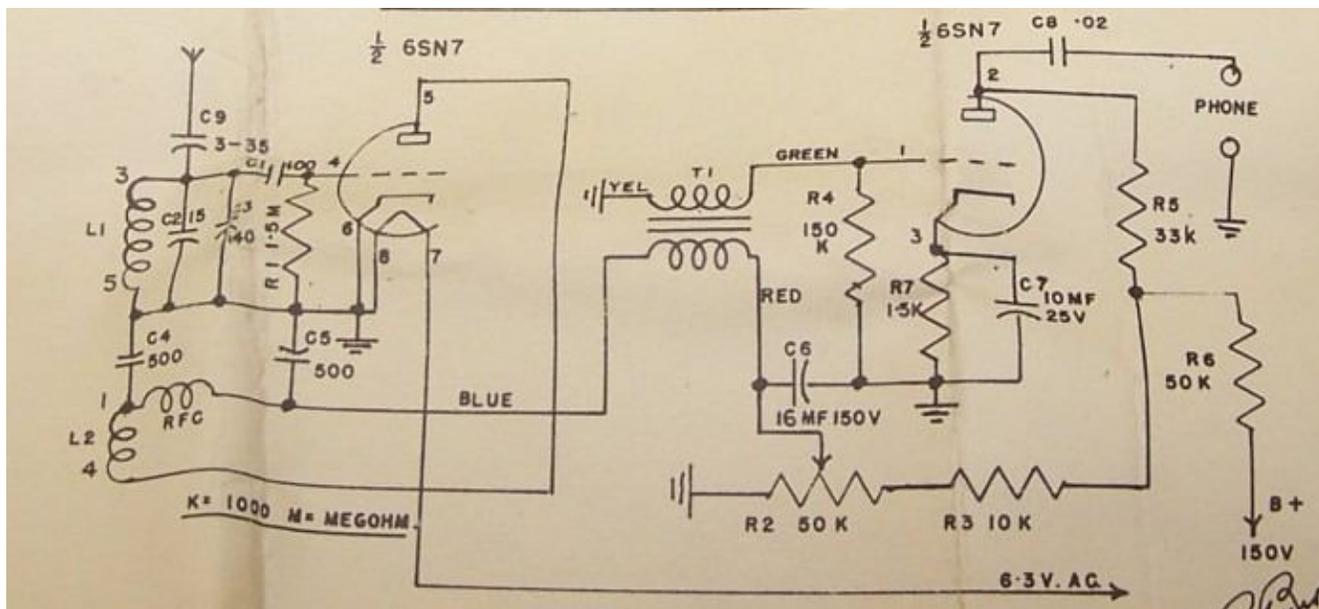
And that is how the County Hunters helped to get Mary, AB7NK finished up by the convention this year – and they(AB7NK/K7SEN) plan to be out in Vancouver in July.

## On the Regen Trail

You never know what shows up on Ebay – a blast from the past appeared in June from the 'way back' 1950s-196-s days. It's an entry level Novice Receiver made by Philmore – the NR-300 that attempted to cover the 80, 40, and 15 meter bands when Novices could use with up to 75w of cw (only). It's a one tube regen receiver.



Here's a copy of the schematic



The circuit uses the common dual triode 6SN7 in a typical ARRL Handbook type design. The regeneration is controlled by varying the plate voltage on the detector via R2, a 50K pot. An interstate audio transformer is used between the detector and the audio amp stage – which

would drive a pair of 2000 ohm type earphones. A note on the schematic has a date of 1963 on it.

The 6SN7 type circuit was included in the ARRL Handbook for many years as well as the other pubs of ARRL. Later they went to a 6AQ5 tube. In the Novice Special in the 60s.

About the only thing on the chassis/radio that indicated it was a Philmore design was the label on the radio dials at the bottom.

This one sold for \$282 on Ebay. Wow!....guess there aren't many of them around.

Philmore also had a corresponding low power novice crystal controlled transmitter – the NT-200 with plug in coil and a 6L6 tube - but I've never seen one go by on Ebay. It was reviewed in the Novice Column in CQ Magazine in 1952, long before Heathkit ramped up. I've seen them advertised in old issues of radio magazines. Philmore sold gazillions of their crystal sets over the years from the 1920s through 1960s.

This unit required a separate 'Novice Power Pack' to provide filament and B+ voltage. Not even included.

Here's an ad for the NT-200 transmitter:



**NOVICE TRANSMITTER AND POWER SUPPLY KIT**  
*Including Key*

**Power Input 25 Watts**  
**3 Bands, 15, 40, 80 Meters**

Easy to assemble, easy to operate. Untuned Pierce type Xtal Osc., uses 6V6 tube tuned output Amp., uses 6L6 tube. Power supply uses 5Y3 tube, 370 V DC at 100 Ma. With tubes and standard key. Foolproof instructions.

**Model NT-200.....Amateur Net Price \$29.40**

It used a 6V6 crystal oscillator and 6L6 output tube, with pi-network tuning. Ran about 25w input and probably delivered 15w or so.

# New Elements Discovered

They have only ever existed for less than a second, but two new elements were named yesterday - Flerovium and Livermorium.

Don't expect to find lumps of them lying around - the elements were created by slamming lighter atoms together in a particle accelerator.

They joined the Periodic Table of elements - which hangs on science classroom walls around the world - last year, but were only named today.

What used to be element 114 is now flerovium, honoring the Flerov Laboratory of Nuclear Reactions in Dubna, Russia, where it was created.

Element 116 is now livermorium, for the Lawrence Livermore National Laboratory in Livermore, California, home of a scientific team that participated in its creation in Dubna.

Scientists have been unable to study their properties, such as which chemicals they would react with because they are so unstable and disappear soon after they are created.

The chemical symbols are Fl and Lv.

Both names had been proposed last year by the scientists who made the materials by smashing atoms together.

Final approval was announced Wednesday by the International Union of Pure and Applied Chemistry.

The man-made elements were created by a team from Russia and another from the U.S. who slammed together the nuclei of lighter atoms in an accelerator.

They reported the results from the experiments in 2004 and 2006.

The Periodic Table, which hangs in science classrooms around the world, arranges all the known chemical elements according to their atomic number. This number reflects how many protons they have in their nucleus.

The heaviest natural element is Plutonium with an atomic number of 94. All heavier elements have been produced synthetically

Element 116 lasts for only milliseconds before it decays into element 114. This in turns lasts for about half a second before becoming Copernicium, which joined the table in 2009.

As newly former elements become heavier and heavier, scientists hope they will become far more stable than the fragments of synthetic matter produced so far.

Some have theorised that elements with 120 or more protons would exist in an 'island of stability.' This would mean that they would decay much more slowly with half-lives of days compared to seconds.

Some scientists have even postulated that half-lives could take millions of years.

Source; : <http://www.dailymail.co.uk/sciencetech/article-2153149/Two-new-elements-named-Periodic-Table--theyve-existed-second.html#ixzz1wYGVTrGc>

## Stormy Solar Debate

Energy from solar flares can harm electrical grids on Earth, but a new study says the sun probably won't plunge the United States into the Dark Ages, as some theorists have said.

Working on behalf of the Department of Homeland Security, scientists with JASON, a government advisory group, recently published a report on the vulnerability of the nation's electrical grid to solar flares. "Impacts of Severe Space Weather on the Electric Grid" concludes that while energy blasts from the sun, called coronal mass ejections, can damage transmission lines, it's unlikely the entire grid could be brought down.

The Secrecy News Blog, published by the Federation of American Scientists, reported that DHS, which requested the JASON study, refused to make it publicly available under the Freedom of Information Act. FAS independently obtained a copy of the report.

The sun is on the upswing of an 11-year cycle called solar maximum, which is ripe for solar flares. Solar-generated electromagnetic pulses have been a matter of concern in the run-up to

May 2013, when the sun is expected to be most volatile.

“Concerns about the vulnerabilities of technical infrastructure to space weather have been growing since the sun entered the early stages of the current sunspot cycle in 2009, increasing prospects for severe solar storms,” the report reads. “The primary issue is not whether these storms will occur but the risks they pose to power grids, satellite communications and GPS.”

Government officials and scientists who study the sun are concerned that not enough is known about the effects of solar energy on power transmission equipment. The JASON report calls attention to the need for better protections against electromagnetic pulses that result from solar flares, but stops short of supporting a popular theory that the sun’s energy could spell doom for America.

John Kappenman, owner of Storm Analysis Consultants, is convinced that a large solar storm could strain the U.S. electrical grid to the point of collapse. That theory was the centerpiece of several days of exercises in Washington, D.C., in November involving industry, government, researchers and defense officials aimed at parsing out what the impact and aftermath of a massive solar storm would look like.

Solar storms have caused hours-long disruptions in high-frequency radio communications and GPS satellites in the recent past but no one is quite sure how a massive storm would affect power generation and transmission in the United States.

Worst-case scenario: all of the nation’s electrical grids collapse under the strain of a large solar flare.

Kappenman said at the November conference that power supply is the “scaffolding of modern society and if it fails, all other critical infrastructure will fail.”

Everything that runs on electricity — food production, waste treatment, potable water distribution, computers — would immediately become useless. Society would be sent back into the 18th century.

The JASON report cast doubt on a Kappenman study that said such a catastrophic outage could occur.

“Because mitigation has not been widely applied to the U.S. electric grid, severe damage is a possibility, but a rigorous risk assessment has not been done,” the report reads. “We are not convinced that the worst-case scenario ... is plausible.”

It goes on to say Kappenman’s report is not “suitable for deciding national policy.”

Some of Kappenman’s concerns are legitimate, as space weather is known to have affected

GPS. Three small storms have struck the United States this year, requiring the rerouting of aircraft, among other disruptions. With better detection and mitigation strategies, the worst consequences can be avoided, the report says.

The government has no coordinated plan of action after an EMP — whether that comes from a nuclear weapon detonated high in the atmosphere, or a solar storm, the JASON report warns. However, the National Oceanic and Atmospheric Administration operates the Space Weather Prediction Center in Boulder, Colo., which is responsible for keeping track of sunspots and solar flares.

“The federal response . . . is poorly organized; no one is in charge, resulting in duplications and omissions between agencies,” the report reads.

Needed are better satellites and more robust protection measures for vital grid components like transformers, according to the report.

Federal space-weather monitoring and response should be centralized, it adds. Moreover, funding for studies of the electrical grid and its weaknesses should continue.

Still, enough analysis has been done and enough countermeasures are in place to prevent a complete collapse of the grid, the report concludes.

Source:

<http://www.nationaldefensemagazine.org/archive/2012/February/Pages/CatastrophicSolarFlareScenarioTouchesOffStormyDebate.aspx>

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de N4CD – we'll see – you have two articles – one saying we are really vulnerable. The other saying 'we've done enough'. Only time will tell.

## More Epic Greenie Fail/Corruption

Documents obtained by Colorado Watchdog show that Loveland-based Abound Solar removed

an entire rooftop of solar panels from the investment headquarters of wealthy Democrat benefactor Pat Stryker, likely because of inherent product defects.

Originally touted as a green energy success story by President Barack Obama and others, Abound Solar finds itself in the national spotlight after laying off almost 200 workers in February, despite a \$400 million loan guarantee from the federal Department of Energy. Stryker's political ties to the Obama administration drew sharp criticism in a recent Congressional Oversight report.

In a Nov. 8, 2010, email, an Abound Solar sales representative asks an engineer to go to Stryker's Fort Collins-based Bohemian Investment Corp. headquarters to "take down the broken modules (I think 14 total) as well as 4 that we shipped them originally? Chris R. will be wanting the 4 unused ones for FA." In engineering lingo, FA is frequently used to mean "failure analysis."

The product failure on Bohemian's rooftop came just one month before Abound would sign documents formalizing the federally backed loan guarantee from the Department of Energy.

The email raises questions about DOE risk-management on loan guarantees. The Congressional Oversight report highlighted the fact that Fitch Ratings company "described Abound as lagging in technology relative to its competitors, failing to achieve stated efficiency targets, and expecting that Abound Solar will suffer from increasing commoditization and pricing pressures." Fitch estimated the chances of taxpayer recovery of the Abound loan at just 45 percent.

Bohemian is the investment arm of Stryker, well known in Colorado political circles as one member of the "Gang of Four" who, beginning in 2004, poured millions of their own money into a largely successful effort to turn Colorado's politics from "red to blue."

Emails and calls to Abound Solar's Steve Abely were not returned.

In March, CompleteColorado.com published an email showing the company conducted a hasty and unannounced shutdown in December 2011. The email told employees, "Don't let the rumor mill create false purposes for this shut down. Holiday shut downs in businesses are common and represent best of class employer actions. We are shutting down to better manage the inventory, cost and to help employees have time with their families. Any other story is a rumor and not helpful in our building open and effective communications."

Though the company created the approximately 200 layoffs in February, Abound executives have maintained that production will resume sometime in the next few months after their factory line is "retooled" for their next generation of solar panels.

<http://watchdog.org/18501/abound-solar-email-raises-new-questions-about-doe-loan/>

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More of your taxpayer money flushed down the greenie toiled by Obama and his well connected campaign contributors. **Isn't it amazing that all of these ventures involve 'prominent democrats'? Ones who have raised tens of millions of campaign cash for Obama?**

What else did you expect?

## Solar Mystery

Last month's solar flare created a mysterious pulse on Earth that seemed to 'answer' sun's blast

Neutron monitors around world 'lit up' despite relatively small size of flare

First time in six years flare affected Earth like this

Data being analysed by satellite which scans particles invisible to others

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After an unusually long quiet period, the sun unleashed a solar flare on May 17 this year - but scientists are now puzzling over what happened on Earth.

Neutron monitors all round the world lit up in response to the blast for the first time in six years, despite the fact it was an M-Class, or moderate, flare.

The 'answering' pulse shouldn't have happened at all. Now scientists are trying to unravel what happened - and why our planet 'pulsed' in response.

James Ryan, an astrophysicist at the UNH Space Science Center said, 'This solar flare was most unimpressive and the associated CME was only slightly more energetic. And looking at it optically, it was remarkably dim, it was, all things considered, a ninety-eight pound weakling of solar events.'

Scientists are now analysing the data using a satellite which scans an range of bizarre particles invisible to other spacecraft - PAMELA, a European spacecraft dedicated to watching rays from space.

Launched in 2006 and dedicated to studying cosmic rays, just two weeks before the most recent blast from the Sun PAMELA was retasked to focus on solar physics due to the Sun's ever-increasing activity.

For decades, there has been strong debate as to what complex processes produce the extremely energetic particles that are registered on the ground; is it the shockwave in front of a CME or do the particles come from the solar flare itself?

The most recent event will allow the study of the evolution of the flare from low to high energies without interruption.

'The PAMELA satellite provides us with a bridge that has never existed before,' says Ryan, 'a bridge between solar energetic particles measured by other spacecraft and those made on the ground by neutron monitors, like the one we've operated here in Durham for decades. Spanning that gap has opened up new opportunities.'

Read more: <http://www.dailymail.co.uk/sciencetech/article-2153200/Last-months-solar-flare-created-mysterious-pulse-Earth-answer-suns-blast.html#ixzz1wYECIcjz>

## Plug In Coils

Back in the 1930s and 1940s, you could buy 'standard' plug in coils from several different manufacturers. Here's a sampling of what shows up on Ebay.

### A) Octo Coils

From the Ebay ad:

This auction is for a set of 4 Short Wave, 4 pin, plug-in coils made by the Shortwave and

Television Corporation. They are in their original boxes and in very good condition.



The first coil (red box) covers 200-100 meters. The second coil (blue box) covers 105-54 meters. The third coil (brown box) covers 58-29 meters. The fourth coil (green box) covers 30-16 meters. These coils cover the above ranges when used with a 150 pF tuning capacitor. I believe these came out in the late 1930's to the late 40's and were very popular to use in home brew regenerative receivers.



## Here's another set made by ICS



This auction is for a set of 5 ICA (Insuline Corp. of America) Short Wave, 4 pin, plug-in coils for home brew regenerative receivers. They are in 'like new' condition.

The first coil covers 300-550 meters. The second coil's label is hard to read but I believe it says it covers 275-580 meters. The third coil covers 1.58-3.87 mc (193-79 meters). The fourth covers 3.47-8.21 mc (88-37.2 meters). The fifth coil covers 7.64-17.4 mc (40-17.6 meters).

They normally were designed to be used with about a 150 pf variable capacitor.

## All Star

Another set of coils showed up on Ebay – for the Allied All Star Junior superhet short wave set of the 1930s, followed by the Senior later. This was a set of two coils per band, one for the oscillator and one for the antenna/rf stage. It took 10 coils total to cover the bands.



That triggered a hunt to find information on what radio these plugged into – and when.

The All Star Jr. was the second version of the All Star "kit" radio designed by Laurence M. Cockaday, Editor of both "Radio News" and "Short Wave Radio" in the mid 1930's. The All star, first version, came out in the fall of 1934 and the All Star Jr. was announced in the Spring 1935.

The kit could be ordered through the magazine or obtained through radio jobbers. It wasn't exactly cheap by depression-era standards, either. Your \$31 or so got you a pre-punched front panel and chassis and all components and hardware. Then you had to supply your own tubes and speaker! \$31 was a LOT of money in the Depression era.



All Star Kit - \$31



The original All Star set was a six tube superhet with a tuning range of 10 - 550 meters using factory wound plug-in coils. It had a 2A7 converter, two IF stages using type 58 tubes, a type 56 detector, a 2A5 for the output and the ubiquitous type 80 for rectification. Later versions had an optional BFO using another type 58. The radio has no AVC. These sets have a rather odd 370 Khz IF Frequency. Some versions used a 5Z3 for rectification. The All Star Jr. used the later 6 V tubes (6A7, 42, etc.) and was most distinguishable from the earlier set by it's black panel and slightly different knobs.

This receiver likely didn't work great. With the low IF and no RF front end, the image rejection was very poor. You had to tune both the main tuning (Osc) and the mixer with separate controls – they did not track automatically. You had no indication of frequency other than a 0-100 scale on the front!

There was a very good article on these sets in the August 2003 issue of "Antique Radio Classified" written by Thomas Boyd.

There weren't many superhets with plug in coils, but even into the 1970s, Unelco had a solid state superhet inexpensive radio with plug in coil sets – one for the antenna, one for the oscillator.

Source:

<http://home.comcast.net/~btse1/vintrad/tube/allstar.htm>



Hammarlund NA-ALD 4 pin coils

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Readers will probably recall the National SW-3 (circa 1931) regen set for the SWL and ham. Not only did they come with multiple sets of coils (it was a regen with one for the RF amp, one for the detector), they had special 'bandsread coils' that would only cover the hambands with the main tuning dial. That was followed by the SW-5 a few years later.

Then folks 'invented' band switches that were low loss, and with regens, the "Q" of the coil was less important and they didn't need to be far away from metal and other things, so you saw bandswitched superhets quickly take over.

# Sloppy Computing

Computing: Letting microchips make a few mistakes here and there could make them much faster and more energy-efficient

DECADES of “manna from heaven”. That is how Trevor Mudge, a computer scientist at the University of Michigan, Ann Arbor, describes the technological impact of the steady doubling, roughly every two years, of the number of transistors that can be crammed onto a silicon chip. It has increased the processing power and storage capacity of computers while reducing their size and energy consumption. The results are all around us. But this steady doubling (known as Moore’s law after Gordon Moore, the engineer who first pointed it out in 1965) cannot go on for ever, and nearly five decades later the limits may finally be within sight.

Transistors now measure as little as 22 nanometres (billionths of a metre) in width, smaller than the wavelength of light with which they are etched, and just a few tens of atoms across. As transistors get smaller, keeping them cool and error-free becomes more difficult. Lowering the voltage at which transistors operate produces less heat, but further reductions are now difficult because feebler voltages result in more frequent errors. The march towards ever-smaller and faster chips “is starting to come unglued”, says Dr Mudge. That is why he and other computer scientists are taking a new approach: designing microchips that can tolerate errors in their operation. Such inexact or “sloppy” chips, as they are also known, can be smaller, faster and more energy-efficient.

The important thing is to control where the errors occur. Masahiro Fujita, who is designing sloppy chips at the University of Tokyo, notes that a single mistake at the beginning of a sequence of instructions can propagate through subsequent calculations and completely mess up the behavior of a computer or robot. But, he says, even relatively numerous mistakes are no big deal in other circumstances, such as when handling sound, images or video. Tiny sound distortions or slightly miscolored pixels will go unnoticed.

An international team of researchers at Rice University in Houston, Texas, the Swiss Centre for Electronics and Microtechnology (CSEM) in Neuchâtel and Nanyang Technological University in Singapore found that by reducing the operating voltage, sloppy chips could deliver equivalent performance to ordinary chips using a quarter of the energy. For audio playback, the researchers found, sound quality was acceptable even with error rates of 8%.

Hearing aids or mobile phones should let people trade sound quality for battery life, says Krishna Palem, the head of the project. When the battery is running low, they could switch to a

high-error mode and put up with the static. A prototype sloppy chip, developed with funding from Intel, the world's largest chipmaker, and America's Department of Defence, is now ready for production. Dr Palem plans to establish a start-up to sell such chips for use in hearing aids with long battery lives.

Another trick is called "pruning". Chips are wired so more power is delivered to more important areas, while areas that compute non-essential data (or are infrequently used) are given less power or simply removed altogether. Tests at CSEM by Avinash Lingamneni found that pruned circuits were twice as fast, consumed half as much energy and were half the size of conventional circuits.

Managing the probability of errors and limiting where they occur can ensure that the errors do not cause any problems. The result of a mathematical calculation, for example, need not always be calculated precisely—an accuracy of two or three decimal places is often enough. Dr Palem offers the analogy of a person about to cross a big room. Rather than wasting time and energy calculating the shortest path, it's better just to start walking in roughly the right direction.

The microprocessor that powers a laptop typically contains more than two billion transistors, but it could run just fine with one-eighth or even more of them producing sloppy results, says Mr Lingamneni. The key is to ensure that sloppy circuitry is used only for certain tasks. It is not acceptable if one file is attached to an e-mail but another file ends up being sent.

Can information that must be processed accurately be kept away from the faster, sloppier circuits? Mr Lingamneni thinks it can. CSEM is developing an error-prone chip for audio-visual processing in mobile phones that dispatches different processing tasks to the appropriate circuitry. The voltage is reduced in parts of the chip that finish calculations faster or with greater accuracy than necessary. Other parts of the chip, where more important calculations are made, operate at higher voltage and with fewer errors.

Another approach to managing errors, called "asymmetric reliability", uses error-prone circuits for number crunching to save power and run faster, says Subhasish Mitra, a computer scientist at Stanford University. Conventional circuits are then used to spot and weed out unacceptable errors. His work is funded by America's Department of Defence and companies including Bosch, Cisco, Infineon, Intel, Semiconductor Research Corporation, Samsung and Texas Instruments.

With this technique, the mechanics of computing become more akin to those of human thought, says Joseph Bates of Singular Computing, a firm based in Newton, Massachusetts. In the "messy process" of brain activity, synapses transmit signals imperfectly between nerve cells, he notes. Rather than squandering resources in a futile attempt to eliminate minor errors, the brain filters them out as processing moves up to higher mental functions. Together with Charles River Associates, a consultancy, Singular is working on a \$700,000 project for the US Navy to design an "approximate computing" video-processing chip to increase the ability of battery-

powered drones to track potential targets.

The technology behind sloppy microchips is now ready for widespread use, says Vivek De, Intel's head of circuit research in Hillsboro, Oregon. But will companies that exploit sloppiness to boost performance or battery life want to admit it? Buyers might think twice before buying a device that operates with errors as a matter of course, concedes Hang Chang Chieh, a professor at the National University of Singapore.

Researchers have coined a variety of euphemisms to describe the technology, such as "inexact hardware", "probabilistic computing", "relaxed correctness" and "relaxed reliability". In five years your smartphone or computer is unlikely to sport a sticker boasting that it contains chips that sometimes get their sums wrong. Even so, such chips may be lurking inside, increasing performance and extending battery life.

Source: Economist, June 2012

## Solar Magnetic Field Flip

Approximately every 11 years the magnetic field on the sun reverses completely – the north magnetic pole switches to south, and vice versa. It's as if a bar magnet slowly lost its magnetic field and regained it in the opposite direction, so the positive side becomes the negative side. But, of course, the sun is not a simple bar magnet and the causes of the switch, not to mention the complex tracery of moving magnetic fields throughout the eleven-year cycle, are not easy to map out.

Mapping such fields, however, is a crucial part of understanding how – and, in turn, when – the sun will exercise its next flip. This flip coincides with the greatest solar activity seen on the sun in any given cycle, known as "solar maximum."

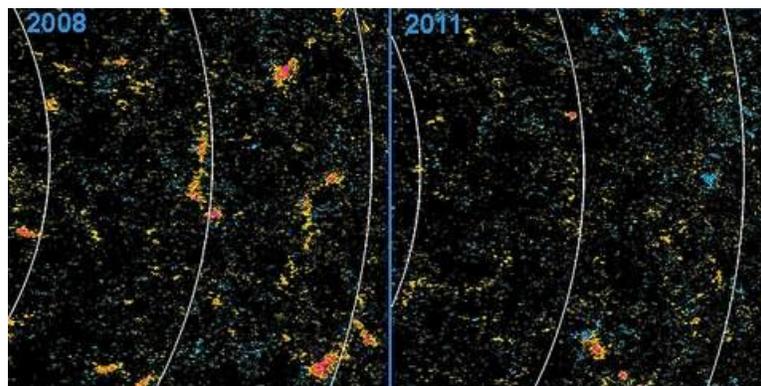
While the cycle unfolds with seeming regularity every 11 years, in two upcoming papers scientists highlight just how asymmetrical this process actually is. Currently the polarity at the north of the sun appears to have decreased close to zero – that is, it seems to be well into its polar flip from magnetic north to south -- but the polarity at the south is only just beginning to decrease.

"Right now, there's an imbalance between the north and the south poles," says Jonathan Cirtain, a space scientist at NASA's Marshall Space Flight Center in Huntsville, Ala., who is also

NASA's project scientist for a Japanese solar mission called Hinode. "The north is already in transition, well ahead of the south pole, and we don't understand why."

One of the two papers relies on Hinode data that shows direct observations of this polar switch. The other paper makes use of a new technique observing microwave radiation from the sun's polar atmosphere to infer the magnetic activity on the surface. The asymmetry described in the papers belies models of the sun that assume that the sun's north and south polarities switch at the same time. In addition, both papers agree that the switch is imminent at the north pole, well in advance of general predictions that solar maximum for this cycle will occur in 2013. Lastly, the direct Hinode results also suggest a need to re-examine certain other solar models as well.

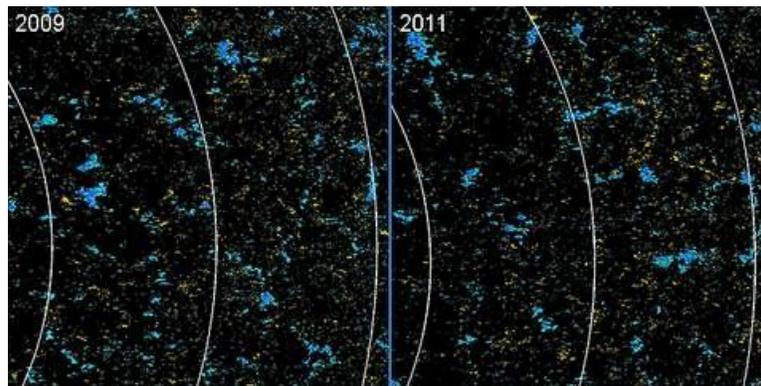
Measuring the magnetic activity near the poles isn't easy because all of our solar telescopes view the sun approximately at its equator, offering only an oblique view of the poles, when they require a top-down view for accurate magnetic measurements. Hinode can observe this activity annually with its high resolution Solar Optical Telescope that can map magnetic fields when observing them from near the equator. The microwave radiation technique described in the second paper makes use of the discovery in 2003 that as the sun moves toward solar maximum, giant eruptions on the sun, called prominence eruptions – which during solar minimum, are concentrated at lower solar latitudes -- begin to travel toward higher latitudes near the poles. In addition, the polar brightness in the microwave wavelengths declines to very low values.



Northern Hemisphere

"These prominence eruptions are associated with increased solar activity such as coronal mass ejections or CMEs, so CMEs originating from higher latitudes also point to an oncoming solar maximum," says Nat Gopalswamy. Gopalswamy is a solar scientist at NASA's Goddard Space Flight Center in Greenbelt, Md. who is the first author on the microwave observations paper,

which was accepted by The Astrophysical Journal on April 11, 2012. "When we start to see prominence eruptions above 60 degrees latitude on the sun, then we know that we are reaching solar maximum."



Southern Hemisphere

To look at the prominence eruptions toward the poles, Gopalswamy and his team used observations from Japan's Nobeyama Solar Radio Observatory telescopes and the joint ESA/NASA mission the Solar Heliospheric Observatory (SOHO). They watched the sun in the microwave wavelengths – which are used to observe the area of the sun's atmosphere just above the surface, known as the chromosphere. Gopalswamy created precise techniques to use such microwave radiation to measure the intensity of magnetic activity on the sun's surface at the poles. By mapping the brightness of the microwave radiation throughout the chromosphere, the scientists showed that the intensity at the north pole has already dropped to the threshold that was reached in the last solar maximum cycle, suggesting the onset of solar max there. This is backed by the fact that prominence eruptions are also occurring at high latitudes in the north. Eruption activity in the south half of the sun, however, is only just beginning to increase – the first CME occurred there in early March 2012.

The Hinode data also shows this discrepancy between the north and the south. The Hinode results are reported by a Japanese team, led by Daikou Shiota a solar scientist at RIKEN Institute of Physics and Chemical Research, and were recently submitted to The Astrophysical Journal for publication. Shiota and his team used Hinode to observe the magnetic map of the poles every month since September of 2008. Early maps showed large, strong concentrations of magnetic fields that are almost all magnetically negative in polarity. Recent maps, however, show a different picture. Not only are the patches of magnetism smaller and weaker, but now there is a great deal of positive polarity visible as well. What once pointed to a strongly negative north pole, is now a weakly magnetized, mixed pole that will become neutral – which occurs at solar maximum -- within the month according to the team's predictions.

"This is the first direct observation of this field reversal," says Cirtain. "And it is extremely important to understanding how the sun's magnetism generates the solar cycle."

Ted Tarbell is the principal investigator for Hinode's Solar Optical Telescope at Lockheed Martin in Palo Alto, Calif., and he points out that the direct measurements showed the progress of the pole reversal, and highlights the earlier portion of the cycle in 2008. Typical models of the magnetic flip, suggest that as active regions rotate around the equator, their higher, trailing edge – which is almost always the opposite polarity from the pole in their hemisphere – drift upward, eventually dominating the status quo and turning positive to negative or negative to positive. The Hinode data show that this transition at the north began before such drifting had a chance to occur.

"This is one of the most interesting things in this Hinode paper to me," says Tarbell. "How did the polar reversal start so early, even though the onset of the solar cycle, that is, increased activity at lower latitudes, hadn't begun yet?"

Tarbell thinks these observations mean that this model, too, may need to be re-examined.

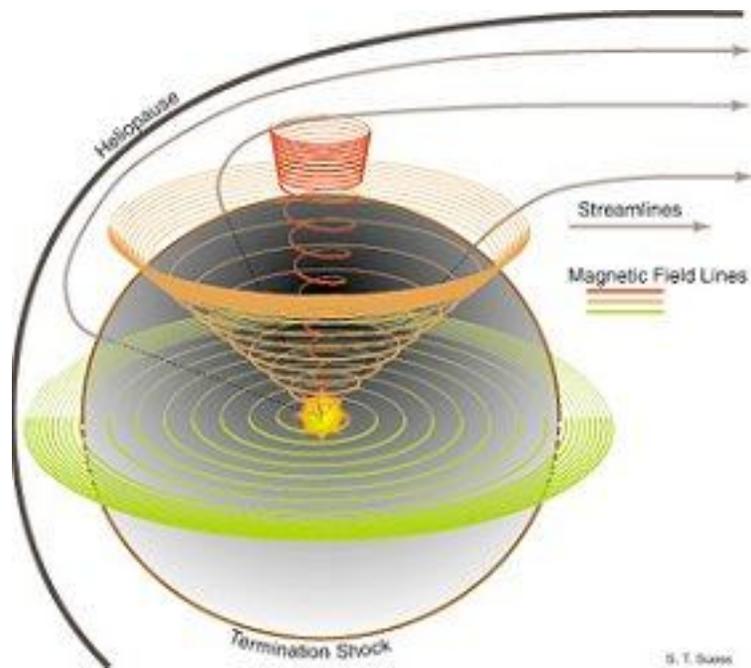
Such adjustments to models are of course expected whenever new and better data is collected. Indeed, David Hathaway, who is a solar scientist at NASA's Marshall, and who is a co-author on the microwave observations paper with Gopalswamy, points out that the idea that asymmetries exist in the sun is not completely new. Other work has recently emphasized symptoms of this asymmetry, measuring, for example, more sunspots in the northern hemisphere than in the south at the moment. "But most of the well-developed models don't incorporate the asymmetry in them," Hathaway says. "More complicated models that incorporate asymmetries do exist, but they have other ways in which they fail to match observations."

Continued study on these differences, using the best observatories as well as new techniques for analysis will help expand and improve our understanding of the sun, its 11-year cycle, and the great eruptions that occur on its surface.

The Sun's magnetic field envelops the entire solar system in a bubble that scientists call the "heliosphere." The heliosphere extends 50 to 100 astronomical units (AU) beyond the orbit of Pluto. Inside it is the solar system -- outside is interstellar space.

"Changes in the Sun's magnetic field are carried outward through the heliosphere by the solar wind," explains Steve Suess, another solar physicist at the Marshall Space Flight Center. "It takes about a year for disturbances to propagate all the way from the Sun to the outer bounds of the heliosphere."

Because the Sun rotates (once every 27 days) solar magnetic fields corkscrew outwards in the shape of an Archimedian spiral. Far above the poles the magnetic fields twist around like a child's Slinky toy.



Because of all the twists and turns, "the impact of the field reversal on the heliosphere is complicated," says Hathaway. Sunspots are sources of intense magnetic knots that spiral outwards even as the dipole field vanishes. The heliosphere doesn't simply wink out of existence when the poles flip -- there are plenty of complex magnetic structures to fill the void. Or so the theory goes.... Researchers have never seen the magnetic flip happen from the best possible point of view -- that is, from the top down

Scientists will also keep their eye on the current cycle – numbered Solar Cycle 24 – because a polar switch at the north that is sooner than was expected also implies this may be a fairly small cycle in terms of the number of sunspots and amount of solar activity.

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[http://science.nasa.gov/science-news/science-at-nasa/2001/ast15feb\\_1/](http://science.nasa.gov/science-news/science-at-nasa/2001/ast15feb_1/)

## With a Little Help from Friends

The last 20 for 4<sup>th</sup> time were very very slow in coming. Worse, I had missed a few of the badly needed counties when they were run when I had other things that kept me busy, or for some reason just wasn't in the hamshack and missed them. It had been a year stuck at the 20-30 counties needed level. The last time done was 2/16/09.

Finally the dam broke...and the counties started to come again. Wow...I got down to ten and it looked like I'd stay there for months. Steve, AK8A, headed to Jackson, LA. Norm, W3DYA and I managed to hook from up McCurtain, OK – conditions were 'short skip' to that area at it finally worked. It's tough working close in ones at 150 miles.

Then after Dayton, by special arrangement, Mike KA4RRU took a detour through Pleasants, WV and the end got closer. I got desperate. Fred, K0FG picked up two in KS with a small detour (thanks Fred for Barber and Kingman). I started looking desperately for skeds in counties. That is often fruitless but I was wanting to finish. The goal was in sight...but those last ones could take forever. I think one time I waited months and months and months for the last one the first time around, which happened to be Kalawao, HI. That you just have to wait till someone goes there! I think that was the first time, too!

Al, KG5J, headed to Conway, AR to get that one for me.

Art, N4PJ, was in Comanche, KS for his son's graduation. He slipped over to Harmon, OK to snag that one for me. Yippee – the end was in sight.

It was down to 4 to go in June 2012.

I finally managed to find a ham in Chelan WA ...I'd worked it on SSB with an SSB county hunter, but this time was 'all cw'. I worked at finding someone that both had email and operated on CW..found one.....except...his antennas were down.....(that seems happens a lot when you cold call).....he recommended a cw friend...and it worked out.....AE7PG in Chelan WA.....449 on 20cw at 1800Z. Ron, KB6UF ran through Menifee KY on the way home from Maine – it gets run about once a year it seems...wow..and not always on cw! (just SSB). What a pile up Ron had on those KY counties! It was now down to 2 to go – Madison TN and

Wallace, KS.

I had surfed QRZ dot com even more seriously. Plus checked the MARAC database – usually not too helpful but occasionally works. On QRZ.com if you type in COUNTY: Marshall in the call box, it will allow you to select Marshall TN and then list all the hams in Marshall County. There's a pile of them. You can then select each one.

I normally start with the 1x2 and 2x1 calls for CW...but no go there...no emails for them....so you start with 1x3s and 2x2s. If they have a general or above license and email, you can send them email....more than half will bounce....or you'll never hear back. One cw op told me 'his shack was under renovation' for a few months – XYL redo of the house. HMMM>>>>.....that kind of stuff happens a bunch on 'cold calls'. I had sent out 10 emails to Marshall... then I thought to check the County Hunter MARAC database just in case.....there were 3 hams listed.

Finally I found N4USG – send him email – no response in 2 days.

So it comes down to Wallace, KS – 3 hams and Marshall TN. I track down a phone number for N4USG in Marshall, TN using the White Pages directory on line– and we had a nice contact on 30M five minutes later. That part of TN is 'too close' for 20M most of the time, and only good for an hour or two on 40M and you have to time it right. Kerry , W4SIG, volunteered to go through Marshall on one of his trips, and after getting me Menifee, Ron, KB6UF indicated he might be able to get it. (Thanks guys – managed to snag it without asking for more detours )

Then it was trying to find a cw ham in Wallace, KS. None of the 3 listed had email on QRZ.com. Sometimes you can do a web search for someone and they'll have their own web page with email listed. No luck there. . I then searched the White Pages on line. Success in finding a phone number for WA0VJR, Butch. Well, I spoke to him on the phone. He got his license back in the 60s and promptly forgot all his code. Might have a key around somewhere.....packed away for 40 years...but not sure he could ever find it or remember how to use it – at any speed. He's also legally blind. That likely wasn't going to work. He said one other ham was only VHF and he didn't think the other was still around. Oh well. (turns out he did have email after all but it wasn't listed on QRZ.com)....we had a nice 30 minute chat. It turns out I'd stayed in his town at least twice. Once at each of the 2 motels there, and ate at the Cafe by both motels. Small world.

I gave Barry, N0KV a call to see if he was planning a trip to KS any time soon. Larry, W7FEN, also volunteered to take a 9 hour plus round trip there to get it for me. With amazing luck, Barry told me that both he and Matt, N0KV, had planned a trip in 2 days to eastern CO over the weekend. I spoke with Matt, W0NAC and he checked the map. Yes, he could take a 15 mile detour each way and snag Wallace, KS for me. Serendipity!

They started off on their posted trip. I was following them around. Late on Saturday, the 20M

propagation just 'faded away' to eastern CO. Darn...this might be harder due to flakey propagation. The A index was up to 17 early on Saturday – not good. He was zilch copy in the last counties he ran on 20M.

I was up at 5am on Sunday, June 10. I couldn't sleep. If everything went right and propagation held, and the road wasn't closed to traffic with a bridge out, etc, I'd likely get the last WBOW for 4<sup>th</sup> time CW.

I usually buy the Sunday paper and head over to Denny's for a nice Sunday breakfast while reading the entire paper end to end. We have about a 4 lb Sunday paper here that's 3 inches thick so it takes a while. I found out that the papers don't arrive to 5:20 am. (Usually I'm sound asleep at that time). So I wait 15 minutes for it to arrive and then head over to Denny's. There's not too many at Denny's at that time of morning. 90 minutes later I head on home after a quick stop at the Walmart. The radio is on at 7:30 am with anticipation of good propagation.

Matt and Barry's first county run is Kit Carson. They're 59 copy on 20M SSB. Didn't hear a CW run. An hour later, they hit the C/L of Wallace, KS and Cheyenne, CO. It's great copy on SSB on 20M. I keep my fingers crossed that Murphy doesn't suddenly ruin the propagation with a flare or other flakey. Finally, it's off to CW for Barry. He's the one running CW. (Matt's doing the 4 digital modes so he qualifies for the new "Five Mode Award". SSB plus RTTY, PSK63, THROB 4, MFSK.)

Success....it's 599 on 20M CW for the LC WBOW.... Yippee

And a big thanks to all who gave me the counties along the way, and the detours to get the last 10 or so. That's when they get tough. And you need 'a little help from your friends'.

73

N4CD

PS – Now those state QSO parties are going to be a lot of fun again! Plus they'll be lots of reasons to spend even more time on the cw nets!

Some Trivia..... the highest point in KS is Mount Sunflower – located in Wallace County!

“At 4,039 feet above sea level, **Mount Sunflower** is the highest point in Kansas. It is located at the far west side of Kansas on the Harold Family Ranch in **Wallace County**.

Some people would describe Mount Sunflower as a barely noticeable rise in the middle of a field on a ranch 1/2 mile from the Colorado border.



For over 30 years the ranch owners have erected a small shrine on Mount Sunflower. There is a covered picnic area, metal sculpture, rocks, a memorial to Edward and Elizabeth Harold (who homesteaded the ranch in 1905) and a mail box which contains a guest book and a few details about the spot. On the 102 degree August day that I visited Mount Sunflower, three parties had already signed the register before me. Included with the guest register, is an invitation to stop by the ranch house and tell "about your trials and tribulations to the lofty summit. Local guides are also available at the homestead for an outrageous fee."

You can't get to Mount Sunflower without driving long distances on gravel roads. From US 40 take Road WA S-3 (3 miles west of Weskan, Kansas) north for 13 miles, turn west on un-named road (there is a Mount Sunflower sign) just over 1 mile, then turn right (north) onto the ranch at the clearly marked Mount Sunflower entrance.

From I-70, take Kansas Highway 27 south from Goodland for 17 miles, turn west on Road WA-W-BB for 12 miles, south on Road WA-N6 for 4 miles, west on WA-W-X Road for 3 miles, south on Road WA S-3 for one mile, west on un-named road just over 1, then turn right (north) onto the ranch at the clearly marked Mount Sunflower entrance. Most, but not all, of the turns on the way to Mount Sunflower have signs.

Ed and Cindy Harold invite visitors to enjoy Mount Sunflower, but ask that you treat

Mount Sunflower as you would treat your own property.”

Source: <http://www.kansastravel.org/mountsunflower.htm>

More at: <http://ejw.i8.com/sun/mountsunflower.html>

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Note de N4CD: In past years, K0BJ and crew put out Mount Sunshine. He wrote:

“the 2nd Sunday in August when the Colorado 14er Event is on. Many years we put on K4S that weekend, and do some HF cw. It's barely in Wallace County, at Mt. Sunflower, highest point in KS and only 10K feet lower than a 14er :- ) (and only 2/3 mile from Colorado...)

Remind me via email shortly b4 and I'll advise if we're deploying this year.”

If you need Wallace, you might keep in touch with him to see if he is headed out. Otherwise, maybe the KS QSO Party coming up in a few months.

## The GM “Hybrids”

—

Hopefully, GM will do a good job to remove all the RF hash from their new technology. GM cars are among the quietest on the road for county hunter use. Whoever winds up with one of these, please report back!

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**DETROIT** – The 2013 Chevrolet Malibu Eco with *eAssist technology* is the most fuel-efficient Malibu ever – delivering a GM-estimated 37 mpg on the highway, thanks to smart electric technology that doesn't affect ride or performance.

The 2013 Malibu Eco is the first Chevrolet vehicle to feature *eAssist*. Along with specific aerodynamic enhancements, it achieves 12-percent greater highway fuel economy than current models equipped with the 2.4L engine.

“Malibu Eco’s *eAssist* system integrates regenerative braking with the latest lithium-ion battery technology, to give our customers significant fuel-efficiency gains,” said Steve Poulos, global chief engineer of *eAssist*. “Providing electric boost to the powertrain system during heavy acceleration and grade driving helps the transmission operate more efficiently. The engine’s start-stop and fuel shut-off during deceleration features add to the fuel savings.”

The *eAssist* system is made up of a 32-cell, 0.5-kW lithium-ion battery, an electric motor-generator and next-generation six-speed transmission. The system’s electric motor-generator is mounted to an Ecotec 2.4L four-cylinder engine, in place of the alternator, to provide both motor assist and electric-generating functions through a revised engine belt-drive system. The motor-generator is a high-performance, compact induction motor that is liquid-cooled for increased performance and efficiency.

The air-cooled 115V lithium-ion battery is integrated into a power pack located in a compartment between the rear seat and trunk. The power pack is surprisingly compact and lightweight, weighing only about 65 pounds (29 kg). It allows rear access to the trunk via the split-folding rear seat, unlike other hybrid competitors. Trunk space is slightly reduced from 2011 models, but still offers 14.3 cubic feet (405 liters) of storage for luggage, golf clubs and other large items. An electric fan cools the power pack, drawing air from a vent located in the package tray, behind the rear seat.

The induction motor-generator bolsters the engine with approximately 11 kW (15 horsepower) of electric power assist during heavy acceleration and 15 kW of regenerative braking power. This power capability enables the battery to capture energy during regenerative braking for improved fuel economy.

*eAssist* technology also allows for a numerically lower 2.64 final drive ratio. As a result, the Malibu Eco can travel 580 highway miles (965 km) between fill-ups, despite having a smaller (15.8-gallon / 59.9 L) fuel tank than other 2013 Malibu models (18.6-gallon / 70.4 L).

The system also enables the Ecotec engine to shut down fuel delivery in certain deceleration conditions, which saves fuel. While in fuel shut-off mode, the motor-generator unit continues spinning along with the engine to capture regenerative braking power and provide immediate and smooth take-off power when the driver presses on the accelerator. Then, as the vehicle comes to a stop, the motor-generator unit spins the engine, bringing it to a smooth stop – and properly positions it for a smooth and seamless restart.

“The battery system is designed to provide power assistance to the internal combustion engine, rather than storing energy for all-electric propulsion,” said Poulos. “It’s really an extension of

the conventional internal combustion engine, not a replacement for it.”

Additional fuel-saving features include:

- An aerodynamically optimized exterior, including underbody panels and electronically controlled shutters in the lower grille that close at higher speeds to push more air over and around the vehicle.
- Lightweight components and systems, including an aluminum hood, aluminum rear bumper beam, low-mass carpet and dash mat and more, save approximately 130 pounds (58 kg) compared to comparably equipped non-Eco models.
- An Eco gauge in the cluster continuously responds to driving behavior, encouraging fuel-efficient driving, while an Auto Stop Indicator on the tachometer informs the driver when the engine is in start-stop mode.
- 

A power flow display in the driver information center – or the center console screen when equipped with the navigation system – indicates which of the following modes the Malibu Eco is operating in:

- **Battery charging** – the *eAssist* motor is charging the high-voltage battery when the vehicle is slowing
- **Electric assist** – the *eAssist* motor is providing electric power boost to the engine
- **Auto-Stop** – the vehicle is stopped, the engine has automatically shut off and is ready to automatically restart when needed.

Driver-selectable modes are offered to enable maximum comfort or efficiency of the air conditioning system and include:

- **Eco mode** – which maximizes the frequency and duration of Auto-Stop, while providing excellent cabin comfort
- **Comfort mode** – reduces the frequency and duration of Auto-Stop to maximize cabin comfort.
- 

2.4L Ecotec engine and next-generation six-speed

The *eAssist* system works with Malibu’s 2.4L Ecotec four-cylinder engine, which features fuel-saving variable valve timing and direct injection technology. It is rated at 182 horsepower (136 kW) and 170 lb.-ft of torque. That’s 13 more horsepower and 12 more lb.-ft of torque than the previous Malibu. – and it’s more power and torque than the 2012 Toyota Camry Hybrid, 2012 Hyundai Sonata Hybrid, and 2012 Ford Fusion Hybrid.

The next-generation Hydra-Matic 6T40 six-speed transmission is designed to enhance powertrain efficiency.

Significant internal transmission changes to clutch controls and hardware provide reduced spin losses while improving shift response and time. The added electric power provided by the eAssist system allows for higher gearing to improve steady state efficiency without impacting acceleration performance or driveability. The system's ability to provide some electric assistance at cruising speeds allows the driver to accelerate lightly or ascend mild grades without the transmission downshifting. Automatic Grade Braking keeps the transmission in a lower gear when decelerating or coasting on a downgrade, helping to improve brake wear performance.

An auxiliary, electric-driven transmission oil pump is added to the 6T40, which keeps the transmission primed and the fluid flowing when the engine shuts down at a stop. That keeps the transmission ready to perform when the driver accelerates, for a seamless, uncompromised driving experience.

“It's a very integrated powertrain system, with no compromises in driving performance, shift quality or ride and handling,” said Todd Stone, Malibu lead development engineer. “We believe this combination points to the future of vehicles powered primarily by an internal combustion engine.

Source:

[http://media.gm.com/media/us/en/chevrolet/news.detail.html/content/Pages/news/us/en/2011/Dec/1212\\_malibu/1212\\_eassist.html](http://media.gm.com/media/us/en/chevrolet/news.detail.html/content/Pages/news/us/en/2011/Dec/1212_malibu/1212_eassist.html)

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de N4CD – Most hybrids like the Honda Civic Hybrid, the Prius – are moving disaster areas when it comes to RF with S9 plus noise while driving.

Note the GM eAssist cars come with ALUMINUM wheels (don't whack any curbs or bad potholes) and lots of aluminum body parts. If you are new car shopping, bring a small magnet with you to make sure your trunk deck is steel – not aluminum, if you plan on a mag mount. A 'composite' trunk deck is not good for an RF ground plane either for any kind of antenna!

## Super Computer News

CHEYENNE, Wyo. —

This month the federal government is assembling a supercomputer 10 years in the making, one of the fastest computers ever built and the largest ever devoted to the study of atmospheric science.

The National Center for Atmospheric Research's supercomputer has been dubbed Yellowstone, after the nearby national park, but it could have been named Nerdvana. The machine will have 100 racks of servers and 72,000 core processors, so many parts that they must be delivered in the back of a 747. Yellowstone will be capable of performing 1.5 quadrillion calculations — a quadrillion is a 1 followed by 15 zeros — every second.

That's nearly a quarter of a million calculations, each second, for every person on Earth. In a little more than an hour, Yellowstone can do as many calculations as there are grains of sand on every beach in the world.

The study of climate and weather patterns has always been hamstrung by volatility — by elements of chaos in the seas and the air. That challenge is most famously summed up by the "butterfly effect," the idea that the flapping of a butterfly's wings on the coast of Africa can determine whether a hurricane will strike New Orleans.

The sheer speed of Yellowstone is designed to burst through the limits of chaos theory. The machine is expected to give scientists a clearer image of the state of the planet, and its future, revolutionizing the study of climate change, extreme weather events, wildfires, air pollution and more.

"These are chaotic systems, but it's just math," said Richard Loft, director of technology development at NCAR's Computational and Information Systems Laboratory. "We play statistics in the climate game. We feed in the basic laws of science, and out comes something that looks like the Earth's climate. It's an instrument. This is a mathematical telescope."

NCAR is in the business of research, not forecasting, but the tools and advances produced from its research could have a profound effect on forecasting. Armed with a high-fidelity portrait of Earth systems, scientists around the United States can begin to pinpoint the regional impact of changes in the weather and atmosphere.

Rather than warning of a tornado risk in the central U.S. between noon and 9 p.m., scientists might one day warn of a tornado risk in Woodson County, Kan., between 1 and 3 p.m. Rather than warning of a hurricane striking the coast of Texas, they hope to be able to warn of a hurricane striking the town of Freeport, with a top wind speed of 90 mph and a tidal surge of 4 1/2 feet.

That regional accuracy is particularly critical in the study of climate change. "The disaster of climate change happens on a regional scale," Loft said. "Everything is connected."

For example, once scientists use Yellowstone to help predict the melting of ice at the North Pole, which means significant change in nearby waters, they can better predict the patterns of storms that form in the Gulf of Alaska. Then Yellowstone can help predict how those storms will deposit snow atop the Sierra Nevada, down to precise changes in elevation on individual

faces of mountains.

That snow will melt, and the water will run downhill — which means Yellowstone can help predict how much water California will have to drink, even the most efficient locations to build the state's reservoirs.

"It's taking the macro information and applying it to the things that matter," said Richard Neale, an NCAR project scientist.

The computer will be housed in a futuristic, \$70-million compound west of Cheyenne. The National Science Foundation, which funds NCAR, is paying \$50 million of the tab. The state of Wyoming will pay for the rest. In exchange, the state will occupy a dedicated chunk of the computer's power and memory. University of Wyoming scientists hope to use Yellowstone to advance "carbon sequestration," a promising method of storing harmful gases underground to combat climate change and open new avenues in industry.

Yellowstone will replace NCAR's Bluefire system, a supercomputer in its own right, though this one will have roughly 30 times the throughput of the old system.

Yellowstone will hold 600 sets of atmospheric data in its vast memory bank — temperatures, humidity, wind motion, rainfall. Information gleaned from the world's data-collection systems — buoys in the ocean, wind monitors fastened to the top of telephone poles — will be added to the archive.

The Wyoming compound is one of the most energy-efficient sites of its kind. Heat generated by the computer will be recycled to warm workers' offices, and pipes carrying the coolant water will have few 90-degree angles; pumping water through pipes that bend at gentle angles requires less energy.

The bulk of the machine will arrive at the 24-acre compound this month. Once the racks are lashed together, scientists will spend weeks "basically trying to break the system," said Anke Kamrath, director of operations and services at NCAR's systems lab. If they can't, they'll open it to researchers from across the nation, probably in August. Scientists will make proposals to book an "allocation" on the computer, similar to using minutes on a cellphone plan. Most will access the computer remotely.

NCAR scientist Michael Wiltberger studies solar flares, superheated gas that emanates from the sun, with the potential to be enormously disruptive on Earth.

"Right now, we don't know why a particular configuration of the magnetic field of the sun is going to erupt," Wiltberger said. "We need to know — and now we can run millions times more models to provide meaningful predictions."

Armed with better predictions of what will happen when solar flares reach Earth — and where, precisely, they will occur — scientists could warn energy companies to protect against power surges. Global positioning systems could be disrupted, so farmers that use GPS to map crops could be warned to suspend planting operations.

NCAR senior scientist Morris Weisman specializes in a tricky corner of science: severe, high-impact weather events, which are by definition so rare that they are difficult to predict.

"Scientifically non-satisfying" is how Weisman puts it — but with such a leap in computer modeling, he said, scientists could theoretically predict an extreme weather event "within an hour, within a few kilometers."

"We can conceive of that now," he said. "It's really exciting."

Loft marveled that such a dizzying array of experiments will be done using time-tested and sometimes rudimentary math — 19th century laws of thermal dynamics, rules of mechanics devised by Isaac Newton after an apple supposedly bonked him on the head and got him thinking about gravity. Yellowstone will use the same, just a whole lot of it at once.

"Newton was thinking about apples, and the moon. He never would have imagined that the same principles would have dictated the behavior of hurricanes," Loft said. "This science stuff works."

The scientists behind Yellowstone shrug at a bitter reality: cutting edge doesn't last long in their world. The Wyoming facility was built with enough space to accommodate the next generation of computer, which is already being contemplated, before this one is put together.

Source: LA Times

YouTube Video here: <http://www.youtube.com/watch?v=wjQpv-QkWdl>

## Dayton Follow Up

HAMVENTION 2012: OFFICIAL FIGURE SAYS OVER 24000 ATTENDED THIS YEAR

The numbers are out and they show conclusively that attendance at the Dayton Hamvention is on the rise. Amateur Radio Newslines's Don Wilbanks, AE5DW, has more:

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The official attendance of Hamvention 2012 reached 24,483. This good news was announced by 2012 Hamvention General Chairman Mike Kalter, W8CI, at the Dayton Amateur Radio Association meeting Friday night, June 1st.

According to Kalter, this was an increase over last year. He attributed it in part to the excellent weather during

Hamvention weekend.

W8CI also noted that many vendors reported excellent sales during the three days of Hamvention. Also that many restaurants, hotels and motels also reported increased sales. This contributing to an estimated \$10 million economic impact for the region.

For the first time this year, a \$3 Dayton Attractions Tour Shuttle ran from Hara's main entrance Friday and Saturday. Stops included the National Museum of the U.S. Air Force, Wright Dunbar Interpretive Center, the Dayton Aviation Heritage National Historical Park and Carillon Park.

In his address to the club, Kalter said that Hamvention would not be possible without the 500 plus volunteers who manage every aspect of the event. For those not aware, the Dayton Hamvention is the largest amateur radio gathering in the world and one of the largest events of its type operated entirely by volunteers.

Planning is already beginning for the 62nd Hamvention which will be held at Hara Arena May 17, 18 and 19, 2013. We plan to be there and hope that you will be too.

For the Amateur Radio Newsline, I'm Don Wilbanks AE5DW, in southern Mississippi.

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Tnx Amateur Radio Newsline 6/8/12 edition

## Before the Big Bang

A renowned scientist says he has spotted evidence that a universe existed before the Big Bang.

Professor Roger Penrose from Oxford University says concentric circles discovered in the background microwaves of the universe provides evidence of events that took place before the

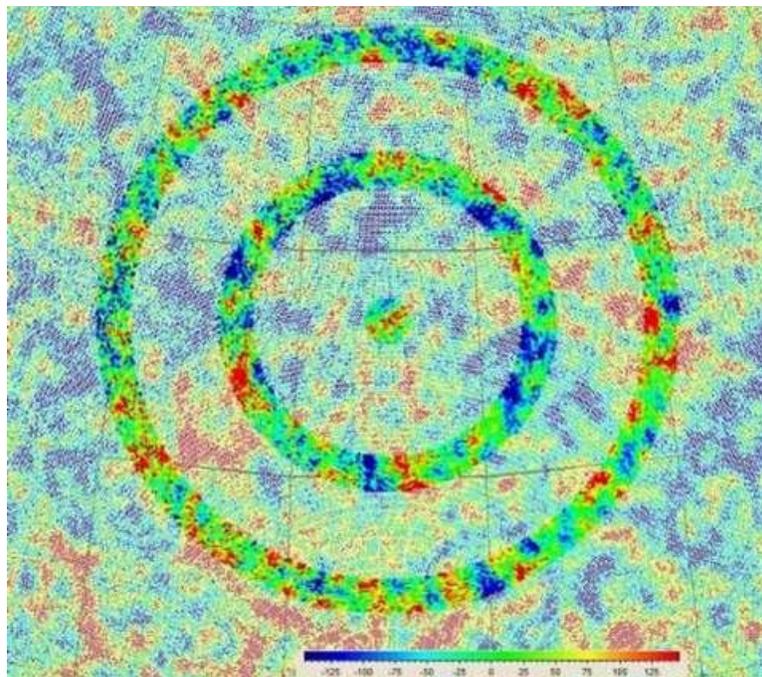
universe came into being.

The cosmic microwave offers us a ghostly look at the the universe just 300,000 years after the Big Ban' - a microscopic amount of time compared to the universe's estimated age of 13.7billion years.

The research by Penrose, who was awarded the 1988 Wolf Prize along with Stephen Hawking for adding to our cosmic knowledge, adds evidence to the theory that the universe has expanded ('the Big Bang') and contracted ('the Big Crunch') many times.

The cosmic radiation background (CMB) is believed to have cooled to a temperature of -270C in the near 14 billion years since the birth of the universe.

Stars and galaxies started to form around 300 million years later. Our Sun was born around five billion years ago, and life first appeared on the Earth around 3.7 billion years ago.



Rings of Microwave Energy

The Daily Galaxy reports that Prof Penrose, along with Professor Vahe Gurzadyan of the Yerevan State University, Armenia believe images of the CMB from NASA's Wilkinson Microwave Anisotropy Probe shows imprints in the radiation that are older than the Big Bang.

They say they have discovered 12 examples of concentric circles, some of which have five

rings - which means the same object has had five massive events in its history.

The rings appear around galaxy clusters in which the variation in the background radiation appears to be strangely low.

The research appears to cast aside the widely-held 'inflationary' theory of the origins of the universe, that it began with the Big Bang, and will continue to expand until a point in the future, when it will end.

They believe the circles are imprints of extremely violent gravitational radiation waves generated by supermassive black hole collisions in a previous aeon before the last big bang.

They say that this means that this means that the universe cycles through aeons dominated by big bangs and supermassive black hole collisions.

Professor Penrose believes that his new theory of 'conformal cyclic cosmology' means that black holes will eventually consume all the matter in the universe.

According to his theory, when they have finished, all that will be left in the universe will be energy - which will then trigger the next Big Bang - and the new aeon.

Professor Penrose told the BBC: 'In the scheme that I'm proposing, you have an exponential expansion but it's not in our aeon - I use the term to describe [the period] from our Big Bang until the remote future.

'I claim that this aeon is one of a succession of such things, where the remote future of the previous aeons somehow becomes the Big Bang of our aeon.'

Source: UK Daily Mail

## Carbon Corruption

Carbon Credits - Phony as a \$3 Bill

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Iran, North Korea, Sudan rack up millions by trading U.N. carbon credits

The U.N. is funneling millions of dollars worth of tradable carbon credits to corrupt nations worldwide, including Iran, North Korea, Sudan, and Uzbekistan in an attempt to encourage clean energy projects in the developing world.

“The CDM started from a page and a half in the Kyoto Protocol,” said David Abbass, a spokesperson for the U.N. Framework Convention on Climate Change. “In the beginning they thought there would be maybe 600 projects, but now there are over 4,000 projects.”

Iran, Uzbekistan, Sudan, and North Korea are among the more than 70 countries currently hosting CDM projects.

Iran, with 16 separate CDM projects, brings in around 4.8 million CERs, worth about \$26 million, every year, despite numerous U.N. sanctions against the Islamic Republic.

Uzbekistan, dominated for the last two decades by the autocratic Islam Karimov, hosts 20 different CDM projects, with a combined annual value of over 7.5 million CERs, or roughly \$40 million.

Sudan, whose president Omar Hassan al-Bashir came to power via military coup over 20 years ago and is wanted by the International Criminal Court on charges of genocide, crimes against humanity, and war crimes in Darfur, is on the receiving end of two different CDM projects, with a combined annual value of over 180,000 CERs, or almost \$1 million.

North Korea is hosting seven hydroelectric dams, which may generate over \$1 million in CERs annually.

North Korea, Sudan, and Uzbekistan are among the 10 most corrupt nations worldwide, according to Transparency International’s 2011 Corruption Perceptions Index.

“One of the first questions with any U.N. program is, ‘Who is overseeing this?’” said Rosett. “Very often no one is.”

CDM support is open to any country with the appropriate bureaucratic machinery in place. Abbass maintained that the CDM is not concerned with human rights issues and that the Kyoto Protocol merely set up the system—individual projects “come from interest in the private sector.”

The program was born of European self-righteousness, said Chris Horner, a senior fellow at the Competitive Enterprise Institute. European governments have staked their reputations on environmental issues, but cannot meet emission reduction targets on their own, he said.

Europeans therefore “buy phony reductions” through the CDM, said Horner.

The Chinese government, an aggressive host for CDM projects, has manipulated the system, going so far as to re-open defunct factories in order to get Europeans to pay them to close them again.

The Chinese are adept at twisting the “mandated inefficiency” of CDM projects to their own benefit, said Horner.

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Meanwhile, Al Gore and his 'carbon broker' buddies are laughing all the way to the bank with their carbon credit extortion money and broker fees on corrupt deals that enrich 3<sup>rd</sup> world tyrants by billions and billions of dollars.

Source: <http://freebeacon.com>

## US Counties Party

### **RULES:**

Fixed Stations may be worked only once on each band.  
U.S. Mobiles may be worked each time they change county or band.  
When operating on county lines count one QSO for each county.  
A station may not operate more than one transmitter at one time.

Spotting is encouraged, including self-spotting by mobiles and fixed stations.

### **EXCHANGE:**

U.S. Stations: RST/RS, state and county.  
All others: RST/RS and "DX".  
County abbreviations (prepared by W0QE) are available at:

<http://www.bnk.com/w0qe/CountyAbbrev-V3-4col.pdf>  
<http://www.bnk.com/w0qe/CountyAbbrev-V3-4col.doc>

### **SCORING:**

1 point for Fixed stations;  
15 points for U.S. Mobiles (must activate more than one county);

5 points for DX.

FINAL SCORE = TOTAL QSO POINTS times unique U.S. COUNTIES WORKED.

For a valid contact, one station must be in a U.S County.

Net contacts are invalid for contest purposes.

Mobiles changing states during the contest should calculate their scores for each state and total score.

Total Overall Score must not count a county as a multiplier more than once regardless of the mobile's county or band.

Separate logs for CW and SSB contacts are required.

FREQUENCIES:

CW: 3.550, 7.050, 14.050, 21.050, 28.050.

SSB: 3.850, 7,250, 14,270, 21,400, 28,400.

**Mobiles operate below, fixed Stations above, listed frequencies.**

## On the Road with N4CD II

The Malibu had sat in the garage since the return from Dayton a couple weeks ago. It had been hot and humid in Dallas for a couple weeks, so it was getting to be time for a road trip. The Hamcom convention was over and it would be months till the next one. I had done my trip planning for the big trip out to WA state and the chores had been done (well most of them) so it was time for a jaunt in the TX countryside. Gas prices, due to very weak world economy and lower demand, had slipped to the \$3.25 range around here.

After the last episode with the bent right front wheel, and the repair at Everett's Body Shop in IA, Bob, N8KIE had recommended I get the front end alignment checked. I took it in and sure enough, it needed to be adjusted. It takes a 4 wheel alignment on the Malibu. The car was ready to go. Now it was a matter of carefully watching the weather. You don't want to be in west TX when there is strong indications of tornado formation. West TX, especially around Wichita and Childress and the east panhandle are notorious for being right smack in the middle

of tornado alley. If you watch the weather channel, you see giant red blobs with a high TORCON Index (probability of tornadoes) frequently centered right there going up into OK points north and east. At the beginning of the week, the read blobs were omni-present.

Those storms along the 'dry line' sometimes head to my neck of the woods in TX, and with the peak sunshine due to the long days, you can get 'instability' when can lead to 'pop up' thunderstorms around here as well. Wednesday saw some severe ones just pop up all of a sudden – right at rush hour. Just 2 miles south of my QTH there was a major line of storms and one line to the west. They produced golf ball size and softball size hail that fell on a five mile long by one mile wide corridor centered on US 75 and I-635 – that took out the windshields on several thousand cars and destroyed windows and roofs, lawn furniture , carports, house windows – estimated at over 2 billion dollars damage. Fortunately no problems here – but just to the south – disaster, and just north of the airport (and in some of the airport parking lots) – more major damage. That's one reason why you look REAL carefully at the weather map before a 'spring' trip around TX. Hi hi Thursday looked good here and to the west and in the panhandle Just maybe some sprinkles predicted. I hope they were right. It's no fun being on a lonely back road in nasty weather. There are stretches where you go 25 miles or more without a house – just fenced 'pasture' that supports one horse or cow every 10 acres.

I finished up for the 8<sup>th</sup> time (4<sup>th</sup> for USA-CW) on 6/10/2012 – Sunday – catching N0KV mobile in Wallace, KS. I figured it was time to get some needs for others – a good way of 'celebrating' starting over. Those state QSO parties would be a lot more interesting for the next couple years as I eagerly sought after every county again. (Why do we do this stuff over and over again?).

Doug, WA4UNS, was down to three for the WBOW for Mobile to Mobile. One that he had needed for a long, long time was Roberts, TX, up in the panhandle of TX. Scottie, needed 3 in TX for Mobile Diamond, and folks always seem to need Hemphill, Hansford, Hutchinson, and others up in the panhandle, plus the ones right below it. I figured I could get to Roberts, then over to Bailey and Lamb for Scottie – running a whole bunch more along the way.

It gets light early this time of year – coming up on the Summer Solstice and the longest daylight hours of the year (in the Northern hemisphere). I was on the road at 5:50 am after a quick nuked breakfast muffin, some OJ and a cup of coffee headed northwest. It was a Thursday. Not everyone can get on during the week (work) but it fit my schedule so that's when it happened. It would be a two day trip. I've run around the panhandle of TX at least 20 times, usually following the same route and same county lines.

I'll throw in a few roads along the way for Alan, VK4AAR, to follow along. The propagation gods didn't smile to much upon him, with just a few in the long each morning. It was over to I-35, and then west on 380 to Wise County where you get on route 287 for a few hundred miles up through Wichita and to Childress. Doug indicated he had to run to town so he wouldn't be

available till after 1700Z. I got the hungries in Quanah and stopped for a good breakfast. I was also ahead of sked and Doug might not be there when I would get there. The service was slow – took about an hour to order and get some nice big pancakes and bacon on the side and get going again.

The next stop was in Childress to gas up after 250 miles or so. There's a few towns along the route, but not many, so when the tank gets down to half, I fill it up. The bands were decent (not great) for cw. Jim, ND9M was the only other mobile out on CW. I needed him everywhere (a nice feeling) so we worked each other many times as he zipped all over WV and then down through KY to TN on Friday.

I ran the nice county line of Hall/Collinsworth. It's a short detour off 287 in Memphis on route 1547. Nice and quiet and about a five mile detour. Then it was back to 287 up to Hedley in Donley County where you now get on 2 lane roads – first 273 headed north to 1321 north which runs into 2857 north. When you hit 152, you zig a bit east by 3 or 4 miles and can run the C/L of Gray and Wheeler. Decent spot, too. Then it's back about 6 or 7 miles to 748 north up to Roberts. Right after I hit the Roberts county line, Doug and I worked, so he is down to needing Nevada, CA (AA9JJ will be there), and Sacramento, CA – mobile to mobile. If you head on the interstate from the east to Nevada County, CA....you need to stop. The highway quickly goes into a huge canyon with horrendous power lines and horrendous QRN. You hear mobile after mobile getting a few contacts in, then suddenly they disappear – and can't even hear an S9 net control station after a few miles in the county. Happens time and time again! Been there – done that. You can't tell it from the map. Hope Doug snags that one

The usual route then hits 60 going northeast to 83 going north. That hits a real good county line of Ochiltree and Lipscomb (nice and quiet and you can park with car facing east). My car has about a 2 S unit difference from front to back – most county hunters are to the east from there.

Then it's time for the even more rural roads – still good ones, but they get mighty lonely with one small town, a gas station and not much else for the next 150 miles if you go all the way over to Dallam County. It's onto the 281 going west. This trip, I'd cut short the run across the top, just getting to Hansford and Hutchinson (run on 281 – right across the street from a house – good C/L – quiet and you can park facing north.) If you keep going west on 281, you can run the C/L of Sherman and Moore with a quick zig up 287, then 287 west - a short zig later gets you Dallam and Hartley. This time, I'd cut that route short and head down 207 to Carson, then hit 60 into Potter. I didn't know where I'd stop for the night.

The luck on the weather was going to change a bit. As I hit interstate 27 south (rush hour in Amarillo – Potter County) down into Randall - lots of real dark clouds to the south – and it started raining. The QRN on the radio started to build up. The rain static was 40 over at times but mostly just real gloomy and dark.

Well, I'd keep going – there's motels along the way every 20 miles for a while. I took 60 going southwest – through Deaf Smith - which is named for a famous TX scout and revolutionary soldier - whose name was Erasmus 'Deaf' Smith and who was deaf – and didn't care if you called him “Deaf” Smith. There's 20 or 30 motels in Hertford, the county seat of the county, but I still had lots of daylight and could run another hour or two. The storms were off to the west and south. Not much rain falling. The skies were 'light' to the west, but not overhead.

If you stay on the same road, you hit Castro/Parmer county line (good one as long as the QRN from the storms don't get you – and the stench from the cattle feed lots doesn't bother you.) It's really 'odorous' there. It had been raining and that didn't help the smell. Yuk! There's a nice motel in Friona...but Scottie was around so I figured I'd zip on down another 25 miles wouth down to Bailey County on 214. It was after 6pm but it stays light till way after 9 pm there – except with the low cloud cover, it wasn't exactly daylight but somewhere in between, with occasional use of the wipers and lots of lightning in the distance. As long as the lightning stayed in the distance, I'd be fine. It was putting on quite a show with lightning strikes lighting up the sky miles ahead.

So at 75 mph it was down to Bailey County. I'd stayed at 'the motel' in Muleshue a long, long time ago. Really old...and besides, Scotty needed Lamb, so I'd head east on 70 to Lamb a few more miles, they look for a motel. Right? Got to be motels along a major road like 70.

The Lamb County line came up. It was getting late – I usually stop by 6pm, but it was light behind me, and the lightning was still ahead of me. Looks like most of it was further east – and likely moving at 30-40 mph away from me. I caught Scottie. It was just after 7 pm and I had likely 2 hours more daylight and there were towns coming up. After running Lamb, I told folks the next one was 'find motel'. That took a while and a long way of driving. It wasn't dark..but it wasn't light either. Lots of dark cloud cover made it 'twilight'. I didn't want to get into bad storms with hail. You never know when you have 'pop up' storms where they will pop up next. Or the next line suddenly appears right on top of you.

I hit Earth, TX. No motel. OK, it was on to Springdale. Hmmm...no motel. It was either then up to Hertford, a 30 mile jog to the north....or keep going east on route 70. Soon I'd be in Hale County. I hit Orton – there was a motel there....but I looked real close.....it was maybe 1920s, looked not so great. - maybe 8 units in a single building, one or two really old old cars parked there..and I wasn't quite that desperate. The probability of a 'no smoking room' was likely zero or less. I really despise rooms that stink of 50 years of tobacco smoke. You can never ever get it out no matter what you do.

A lot of what used to be motels are now turned into rental apartments. You pass them by, but most folks wouldn't stay in them even if they were still motels. Before the era of the interstate and cars that could do 70 mph all day – folks would drive a few hundred miles and stop wherever it was to rest up. You also had a lot more folks in the farming economy before the era

of the mega farms and kids going off to the 'big cities' for jobs. The population of a lot of these towns declines year after year – except if there is an oil boom nearby! Most of those 20s and 30s motels in the very small downs are now rental apartments.

I guess if it were raining 4 inches an hour with no end in sight....or in a blizzard that motel would do...but I kept on driving. Plainview was the next city another 30-40 miles to the east. It was on the interstate going north/south. The skies were threatening to the east – fortunately the storms and lightning flashes stayed to the east, but you can tell it rained – at times the road was covered in a puddle and the sides of the road were flooded. Probably a real good downpour where you couldn't even see the front end of the car had occurred 15 minutes earlier. I didn't want to experience it first hand on this trip. So far my luck was holding.

The QRN was everywhere, though. 40M was near useless with 40 over static crashes and 20M was too long at this time of day. They need the rain. Lots of it. Texas is still in drought conditions. Still averaged better than 65 mph....speed limits are 70 out that way, and a lot of folks will be doing 80 on the two lane road (but with wide wide shoulders)

I hit Hale County – worked one station on 20M (no spot) and one on 30M. No spot when I checked later. No one else showed up and it was late – approaching 8pm(0100Z). I pulled into Plainview and there were a host of motels. There was a Super 8 but no Motel 6. I sprang for the Super 8. Real nice motel. Totally non-smoking. There was a comfort inn, Days Inn and a whole raft of 20s/30s motels down the road that I didn't bother to check carefully. I was tired after 650 miles of driving. It had been a long long day. I didn't want to spend time searching for a less expensive motel and it was getting dark with the dense cloud cover.

Right next door was an IHOP, so I walked over there and grabbed dinner. I got back to the room at 9pm, watched some news, checked the County Hunter forum, and hit the hay at 10pm.

It had been a busy day. 17M was working pretty well from west TX. It's 'far enough' away from the east coast so the skip distance works out fine. 20M had been decent – not great. It worked fine to WV for ND9M, but W1s and W4s in FL were in and out. W0EAR n MN was marginal a lot of the time. 30M worked well at times, and 40m occasionally especially early morning and late afternoons. The 20M net was in friendly session on Thursday, so I ran some of the C/Ls during the day on 14336. Ed, N8OYY, needed a few up in the panhandle, but I missed him in some. When I stop to run the C/Ls it's easier for me to run SSB.

I was up at 6am for the breakfast. Waffles! Cereal. Sausage Muffins...whoa...I checked the Owens packaged sausage muffins.....350 calories, 85% of the daily saturated fat allowance.....OK...I skipped them. Had a half banana on the raisin bran cereal;, cup of OJ, two cups of coffee, and the waffle. I filled up the car - \$3.25/gal. I was on the road at 7am headed east on 70. James was busy running mobiles off on 336, so I'd spot myself and run on 14339 or 14323 when I got to a county line. Where there's internet there's a way. Failing that, there's

always the cellphone and a cooperative spotter who'll spot me if I give them a call on the phone. Hi hi. Occasionally I'll work the mobile on SSB net freq to give the mobile my county, but the only ones I 'need' are sometimes the Mobile Diamond counties from the mobiles who have their MP already. 40M SSB this trip was zip – went there a few times and no one home. Static was bad with the storms around and no one listening there. I didn't waste my time the rest of the trip.

I ran a few of the C/Ls on SSB just to annoy James. And of course, give out the counties. Some of the SSB net denizens are also coming over to CW these days, more and more of them. We all thank James for the new CW county hunters. Dan, KM9X, is a cw regular despite his calling it 'that dratted cw' – hi hi. Now WA4EEZ is coming over to CW. And of course, AB7NK got some of her counties on CW for her first time. Welcome all.

Why, James even got upset and did his raspberries thing and tuning up with carriers and making weird sounds while I was on SSB...it stops suddenly when he has to talk on 336...funny..you just check 336 when the crud stops and there is talking.....amazing, isn't it? As if he thinks he is 'anonymous'. I just laugh my head off. He's still likely be voted Nut Control of the Year, you think? One of these days the guys in white jackets will be hauling him away. If he has to try to jam folks off frequency so they don't get their contacts, he's got to be nuts, right? Apparently his meds aren't strong enough these days. No problems on Thursday when he wasn't round. Is he really that stupid? Or demented? Or childish having temper tantrums like a spoiled brat “control freak” 6 year old? (and does he really enjoy reading about the idiotic things he does in the CH News? If he didn't do anything stupid, silly and ILLEGAL, there wouldn't be anything to write!). I guess he just hates the rest of the county hunters by not wanting them to get their needed counties? That must be it. What else could it be?

It was 70 to Cottle, down 83 to King, to 82 east to 222 to 380 and home. I did take a zig to get Baylor on 266 to 1608...nice C/L King/Baylor. Then backtrack five miles and zip on home.

Overall trip....1061.9 miles...home by 3 pm.....

Some of the regulars have started over. NT2A, Gene, , Pat, K7VAY, Larry, W7FEN, and Mike, W0MU need everything all over again. . Karl, K4YT, needs everything on CW again. Mary, AB7NK now can focus on getting that Bingo. And working everything for 2<sup>nd</sup> time once she gets the paperwork done.

Hope you caught something you needed. Now good for 8 stars so for those working on 20 star award....you got an extra star this trip compared to past trips. You only need another 12 stars in those counties...or have to wait a long time for N4CD to get mere stars... hi hi....

# West Virginia QSO Party

It was a good week for West Virginia counties. First, ND9M ran the whole state on SSB and CW.

The West Virginia QSO Party was held in mid June with a half dozen fixed stations. Some I noted spotted were:

KN8J – Ritchie 20CW  
KV8ED – McDowell – 7 SSB  
W8WVA – Kanawha  
WA8KAN – Wood  
K3JT – Monongalia  
KT8N – Wyoming  
K8UC Wood  
K8JQ Kanawha  
K8OHT – Mineral

If you still need the above counties, they are good candidates for a sked.

There seemed to be one mobile – K8RYU who ran more than a dozen counties. He didn't spend much time on 20M unfortunately but ran mostly on 40M CW, then later on 80M. For those who could work him on 40M, later 80M, they had 20+ multipliers in the log. For those limited to contacts on 20, it was a half dozen or so multipliers. Bonus station W8WVA was on at least 4 bands on SSB and CW for folks to snag. I managed to hear and work ONE WV station on 15m and that was it. Not many others reported contacts there.

From the 3830 contest reflector

**K4BAI – GA - 33 cw 15 ssb 17 mults**

“I think it would be helpful to have suggested frequencies on each band instead of saying "General Class bands." That's too broad. We need a starting point to look for WV stations on each band and mode. Pretty good activity and fair band conditions. 20M went long after only a few QSOs on that band. Thanks to K8RYU/M for a great mobile run and to the ops at the bonus stations signing W8WVA.”

# Obama's War on Energy

The War On Energy And A Second Term (from the Berry IV board)

It is strange for me to see the president of the United States actually working against making this nation stronger. I must confess I've never seen anything like it. It feels different and it is different. Ever since he took office, president Obama has worked fastidiously to close electric generating facilities that use coal. The rhetoric in his speeches about his belief in man made global warming and his commitment to funding so called "renewable energy" projects is disconcerting. Of course it's his operatives at the EPA that are the actual troops on the ground carrying out the mission. If he were somehow re-elected to a second term, the unreported and unprecedented war on fossil fuels will continue unabated.

Recently the New Yorker magazine published a story titled "The Second Term" by Ryan Lizza. The story speculates about what the major priorities of the current president would be if returned to the White House. Lizza says "Obama has an ambitious second-term agenda, which at least in broad ways, his campaign is beginning to highlight. The President has said that the most important policy he could address in his second term is climate change, one of the few issues he thinks could fundamentally improve the world decades from now." One thing is for sure, President Obama, if re-elected will not change his horse in mid-stream. He has been and continues to be committed to taxing carbon dioxide one way or another. Cap and Trade failed but least we forget, shortly after that defeat he said "Cap-and-Trade was just one way of skinning the cat, it was not the only way." You can bet the ranch that any cat inside our borders will be scurrying for their lives if he is re-elected.

On January 1, 2013 the Bush Era Tax Cuts will come to an end. Because of this the size of the federal government will be reduced and taxes will increase. It is speculated that this could have a major negative impact on the sputtering and fragile economy. Speaking from Air Force One on June 6, 2012 president Obama insisted that he will not extend the Bush Era tax cuts for wealthy Americans. The president forgot to mention that all Americans will see their taxes

increase on January 1st, not just those earning over \$250,000 a year.

So what will the President do if he is re-elected and faced with this situation? My guess is that he will continue the path he has pursued all along. He will continue his attack on the fossil fuel industry. Using fear of global warming as his weapon, he will extract capital from the economy with a so called "carbon tax." However, it will not be a tax on carbon. The term "carbon tax" is a smoke screen. It will actually be a tax on every industry and every entity that produces carbon dioxide gas.

It will be Cap-and-Trade re-formulated, re-constituted and re-marketed in the name of saving the economy and having the double benefit of saving the world from global warming, excuse me, climate change! The president believes he has that kind of power. Remember on the night he was nominated he said "Let it be know that this was the day the oceans stopped rising and the planet began to heal."

I wonder if the President knows that carbon dioxide is a colorless, odorless gas that makes up a tiny 0.038% of the atmosphere and is beneficial and essential to all living things. The re-formulating of Cap and Trade into a carbon tax makes it sound like he is actually trying to do something about carbon. Using the word carbon intentionally conjures up images of black soot and dirty miners and filthy air. The use of the term carbon, when actually referring to carbon dioxide, has been a deliberate attempt by the media and the administration to convince the scientifically illiterate people in their audience that carbon dioxide gas is dirty and is a pollutant. Using the word carbon as a substitute for carbon dioxide gas is willfully and knowingly deceptive.

The story in the New Yorker speculates that a new carbon tax might not be so far fetched. The article says "Early discussions on Capital Hill suggest that, in a wide-ranging deal, a carbon tax (sic) might be part of a grand bargain to settle Taxmageddon." Taxmageddon is the term used by some to describe the negative impacts of the ending of the Bush Era tax cuts in early January 2013.

The Obama administrations war on carbon dioxide and those that produce it is a multifaceted battle front. Piloted by Lisa Jackson, the EPA will continue to be the lead tank rumbling over industries that get in the way, squashing them out of existence with crushing regulations. If Obama is re-elected this massive, unchecked government juggernaut will be fully armed to destroy one of our most abundant resources. Lisa Jackson's has focused the barrel of the EPA cannon squarely on coal. On April 1st 2010 Jackson's EPA issued "Interim Guidance on Clean Water Act (CWA) Procedures for Appalachian Surface Mines." There was no warning this was coming and no period for public comment as is traditionally the case.

Measuring the electrical conductivity of water in streams is an indirect measure of the total dissolved solids (TDS) in the stream. The conductivity is measured in micro-siemens per centimeter. Drinking water typically has a conductivity level of 500 to 800 micro-siemens per

centimeter. In the EPA's April 1, 2010 issuance of "guidance on water quality requirements for coal mines in Appalachia" the standard set for streams was 300 to 500 micro-siemens. **This is a level below that of drinking water and is virtually unattainable in Appalachia.** On July 21, 2011 the EPA put out its "final guidance on issuance of the CWA and lowered the conductivity standard to no more than 300 micro-siemens in West Virginia and Eastern Kentucky.

EPA knew from the beginning that these levels are unattainable by the coal industry. Any activity upstream such as salting of roads in winter, highway construction, agricultural activities or a storm can cause increased in conductivity levels unrelated to mining. The intent of the EPA is clearly to shut down the permitting of coal mining operations by using unrealistic water standards under the Clean Water Act.

If President Obama is re-elected this obstructive standard, now being used in Appalachia, could be spread across the nation with devastating effects on the coal industry, its employees and ultimately the United States economy and its people. If they are successful in shutting down coal with this regulatory firepower they would be free to turn the cannon around and target their next enemy, natural gas. "

Source: <http://investorvillage.com/smbd.asp?mb=4288&mn=94898&pt=msg&mid=11828208>

## Super Computer News II

A supercomputer installed at a U.S. laboratory has achieved the top speed rating in the world, ending Japan's one-year reign atop a ranking that is considered crucial for scientific research and national defense.

The record-setting debut of an International Business Machines Corp. system at Lawrence Livermore National Laboratory comes as scientists in a growing number of countries are trying out different hardware approaches to win bragging rights in scientific computing. Companies that are targeting new computer chips for supercomputers include Intel Corp. and Nvidia Corp., as well as IBM.

IBM's Sequoia system was able to carry out 16 quadrillion calculations a second, or petaflops, according to a benchmark used to compile a semiannual list of the world's 500 most powerful

computers. It displaced a system from Japan's Fujitsu Ltd., 6702.TO +1.94% called K Computer, which last year won the top speed rating.

Supercomputers are used to solve some of the toughest scientific problems, such as simulating nuclear explosions, forecasting long-term climate changes and mapping underground oil and gas deposits. Also, some longtime supercomputer makers, including Cray Inc. and Silicon Graphics International Corp., have recently begun selling machines for so-called big-data problems, such as studying stock-trading patterns and user actions on the Web.

Once considered a mature industry, the room-sized installations have been selling more quickly than conventional server systems. Revenue for supercomputers priced at more than \$500,000 jumped 14% to \$976 million in the first quarter, according to the market research firm IDC.

The field has long been dominated by the U.S., but challengers keep popping up. A system in China called Tianhe-1A surprised market watchers in 2010 by grabbing the top spot on the list, known as the Top500. A system from Japan's NEC Corp. held the speed crown for more than two years in the previous decade, prompting U.S. government agencies to boost research spending in the field.

"It's good to see a little competition going back and forth," Cray Chief Executive Peter Ungaro said regarding Sequoia's top ranking. "I fully expect Japan and China and Europe to strike back."

Supercomputer makers originally designed their own internal circuitry. In the 1990s, however, many companies began assembling systems using hundreds—and, eventually, thousands—of chips from Intel and Advanced Micro Devices Inc., using a design called x86 that was first used in personal computers.

But building supercomputers from ever-larger numbers of such components is impractical, largely because the resulting systems consume too much power. The result is that companies in recent years have enhanced x86-based machines with other chips that can accelerate specific kinds of tasks.

For example, many of the world's largest machines now use chips from Nvidia or AMD that were designed to manage graphics in personal computers. Intel, meanwhile, has developed an accessory chip, known by the code name Knight's Corner, with the core circuitry of more than 50 x86 microprocessors.

IBM's system at Lawrence Livermore, by contrast, is based on a design called Blue Gene/Q that uses new chips the company designed itself to boost performance while saving energy. Each has 16 processors, based on a technology called Power that long has been used in the company's servers.

Using specialty accelerator chips works well for some chores, said Ambuj Goyal, general manager of development and manufacturing for IBM's systems-and-technology group. But a more general-purpose architecture like Sequoia provides greater flexibility to do more jobs without extensively rewriting software, he said.

IBM's Blue Gene/Q design took four of the top 10 spots in the latest Top500 list, compared with just the No. 2 position in the November ranking.

Sequoia occupies 96 computer racks, each taller than a refrigerator, and exploits the equivalent of 1.6 million calculating engines. It is estimated to be about eight times more power-efficient than an existing system at the lab based on a design called BlueGene/L.

Researchers at the lab in Livermore, Calif., which is 44 miles east of San Francisco, plan to use the system to improve simulations used to judge the effectiveness and safety of nuclear weapons, a mission overseen by the Department of Energy's National Nuclear Security Administration.

Source: Wall Street Journal 6/18/12

## Europe “Cools” on Global Warming Hysteria

We are on the cusp of the Summer Solstice (starting on Wednesday evening), in the wake of the wettest April on record and in the midst of what promises to be a June that is both record-breakingly damp and 1.4C cooler than average.

Out of our rain-streaked windows we spy leaden skies, louring clouds and oily puddles.

Of course, you are not supposed to ask yourselves: ‘Whatever happened to global warming?’

Not even if you say it particularly quietly, or as a joke. If you do, chances are you will be sharply reminded that ‘weather is not the same as climate’.

This is true. But it’s also a bit of a cop-out. After all, as most of us are now aware, there has been no ‘global warming’ since 1998, which is when the curve on the graph goes flat.

In the eternally moving battlefield of claim and counter-claim in the great climate change debate, even Professor Phil Jones – of the University of East Anglia’s Climatic Research Unit – conceded in 2010 that there had been no ‘statistically significant warming’ between 1995 and 2009.

In the simplest, human terms, therefore, no one younger than 14 years old has experienced global warming.

So why does our Government go on acting as if it's a major problem? Why all these hugely expensive commitments to 'decarbonization' and 'renewable energy'? Why all the eco-taxes on our holiday flights and wind-farms – if the supposed threat they were designed to avert now turns out to be unsupported by real-world evidence?

It is not just 'deniers' who are asking these questions.

Last week, in London, the Global Warming Policy Foundation hosted a lecture by a leading German green – former activist and Hamburg state environment senator Prof Fritz Vahrenholt.

The evidence for man-made global warming is looking shakier by the day, Germany's answer to Jonathon Porritt or George Monbiot admitted. Far more likely a culprit is the sun.

Vahrenholt isn't the only green guru to recant.

Earlier this year, Prof James Lovelock graciously conceded his doomsday claims about climate change – for example his prediction that 80 per cent of all humans would be wiped out by 2100 – had been somewhat overdone.

'The world has not warmed up very much since the Millennium,' he said. 'The problem is that we don't know what climate is doing. We thought we did 20 years ago.'  
Indeed we did.

But as a reminder of just how very much things have changed between then and now, we have the Rio +20 Summit opening in Brazil this week.

Staged by the United Nations to mark the 20th anniversary of the world's first Earth Summit (also held in Rio), it is turning out to be a pale imitation of the original.

The 1992 Rio Earth Summit was the greatest political gathering the world had ever seen – attended by politicians from 172 countries, including no fewer than 108 presidents and prime ministers.

At the end of it, 154 nations signed the United Nations Framework Convention on Climate Change (UNFCCC) committing themselves to reducing their greenhouse gas emissions in order to prevent 'dangerous anthropogenic interference with Earth's climate system'.

In fact, symbolically, it was rather humbling – an example of how humanity coalesced in the face of a common enemy.

Alas, two decades on, about the best Rio +20 can manage is Nick Clegg. President Obama is not going, nor is Angela Merkel, nor David Cameron.

Global warming no longer seems to be quite the urgent threat it was after a succession of biting cold winters and miserable summers.

Like the disastrous Copenhagen, Cancun and Durban summits before it, the Rio event looks set to be another damp squib, beset by bickering, achieving nothing other than a few vague, non-binding commitments to do something serious some time in the future.

How much simpler things were in the early Nineties. The Intergovernmental Panel on Climate Change (IPCC) had just produced its first Assessment Report in which the world's most expert scientists all apparently agreed that the world was doomed to burn in hellfire unless man amended his wicked ways.

The three IPCC reports since then have confirmed this prognosis with increasingly shrill certainty.

**But, unfortunately, no one outside the Government and the green movement takes them very seriously any more, because the real world has stubbornly refused to act in accordance with all the climate scientists' scary predictions.**

Sea levels have not risen dramatically. 'Threatened' regions such as Tuvalu, the Maldives and Bangladesh have not drowned.

Polar bear populations continue to thrive. Arctic sea ice is recovering while the Antarctic ice is expanding.

**But, most damningly of all, global warming stopped at the end of the last century.**

And if we're to believe Fritz Vahrenholt in his bestselling book *Die Kalte Sonne* (The Cold Sun) it's in no danger of starting any time soon.

Vahrenholt's thesis – based on the observations of increasingly respected scientists such as the Danish physicist Henrik Svensmark – is that the main agent of climate change is not CO<sub>2</sub> but solar radiation.

Much of the mild global warming we've experienced in the past 150 years (a rise of about 0.8C) was, it would appear, the result of solar activity (detectable in the number of sun spots) which is now slowing down.

We are entering a period of 'weak' solar cycles, and this decline in activity is expected to

continue until about 2040, by which time – according to some pessimistic predictions – global mean temperatures will have fallen by 2C.

For many of us, in other words, ‘global warming’ is something we will never experience again in our lifetime. From now on we can expect drabber, wetter summers and colder winters.

And as if that weren’t depressing enough, here are our political leaders regulating and carbon taxing our economies as if the non-existent global warming problem was still something to fear.

This is madness – and one day future historians will see it as such. They will gasp in astonishment that in 2011 the global carbon trading market climbed to a record \$176 billion (£113 billion) – about the same as global wheat production.

They will ask how CO2 could be valued as highly as the essential foodstuff that supplies 20 per cent of the calories consumed by the seven billion people on the planet.

A good place for them to start would be the hysteria and optimism of that original Earth summit, in which a mix of panic and good intentions were allowed to override common sense. In short, blame it on Rio.

Source: UK Daily Mail

## Money Wasted - “Clean Energy”

Doubling down is also the semi-official metaphor of President Obama’s energy strategy, as we know from his speech in Cleveland last week: “My plan would end the government subsidies to oil companies that have rarely been more profitable — let’s double down on a clean-energy industry that has never been more **promising**.”

Blackjack pros like doubling down; it’s a chance to profit from newly acquired relevant information. Whether that logic applies to the U.S. government’s energy bets, however, is a different story. What we’ve learned so far suggests that the president should fold his cards.

U.S. energy subsidies — spending, tax breaks, loan guarantees — increased from \$17.9 billion

in fiscal 2007 to \$37.2 billion in fiscal 2010, according to the Energy Department. Yet fossil fuels' overwhelming market advantages have produced a litany of clean-energy failures, from electric cars to Solyndra.

The subsidies ostensibly address several issues — dependence on foreign oil, job creation, international economic competitiveness and environmental degradation — but without clear priorities, much less rigorous cost-benefit analysis. Unintended consequences and political influence abound.

The best-laid plans are vulnerable to unforeseen market developments — such as the boom in oil and natural gas “fracking” over the past decade, which Obama has now embraced.

To the extent that it's coherent at all, the federal energy “portfolio” represents a return to industrial policy — governmental selection of economic winners — which was fashionable in the 1970s and 1980s, before it collapsed under the weight of its intellectual and practical contradictions.

As such, current clean-energy programs are no likelier to pay off than President Jimmy Carter's Synthetic Fuels Corp., which blew \$9 billion, or President George W. Bush's \$1.2 billion program for hydrogen vehicles.

This isn't just my opinion or the finding of some right-wing think tank. Rather, all of the above comes from a new paper by three certifiably centrist Brookings Institution scholars, Adele Morris, Pietro S. Nivola and Charles L. Schultze; Schultze was a senior economic adviser to Presidents Kennedy, Johnson and Carter.

The researchers pick apart clean-energy subsidies rationale by rationale.

Like his predecessors of both parties, Obama argues that the subsidies can help reduce dependence on foreign oil. But even with 100 percent self-sufficiency, we would be vulnerable to price shocks in the global market for this fungible commodity. Many technologies favored by current policy — wind, solar, geothermal — replace coal and natural gas, in which the United States is already self-sufficient.

Obama also cites the need to compete with other countries in developing the energy industries “of the future.” The Brookings scholars argue that higher living standards depend on growing productivity, not the global market share of U.S. industries. Their authority for this is Nobel Prize economist Paul Krugman's 1994 essay in *Foreign Affairs*, “Competitiveness: A Dangerous Obsession.”

Having China or someone else develop clean-energy technology might be to U.S. advantage; let them pay the inevitable start-up costs; then we can adapt the discoveries to our own needs.

Heck, if we want to reduce the most emissions at the least cost, it might be wise to import the means of doing so.

As for job creation, clean-energy subsidies shift demand for labor; they don't increase it. "I'm not aware of a single peer-reviewed economic study that shows these programs create jobs in the long run, and on a net basis," Morris told me. Solyndra and its 1,861 vanished jobs proves her point. Fracking probably created more permanent positions.

If government does double down on clean energy, it's the federal budget that will end up busted.

Source; Washington Post

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Promises promises.....and every one of them in 3 1/2 years is a broken promise in the energy field. Failure after failure. Disaster after disaster.

## Latest Awards Issued

USACA #1228	Mike, W0MU	May 29, 2012
USA-CW #128	Karl, K4YT	June 8, 2012
USA-CW #129	Mike, NF0N	June 17, 2012
Second Time #413	Larry, W7FEN	May 21, 2012
Second Time #414	Pat, K7VAY	June 6, 2012
Second Time #415	Gene, NT2A	June 8, 2012
Second Time #416	Slick, AA1VA	June 14, 2012
Eighth Time #11	Bob, N4CD	June 10, 2012
USA CW IV #8	Bob, N4CD	June 10, 2012
Bingo #341	Larry, W7FEN	May 24, 2012
Bingo #342	Bill, NU0Q	June 16, 2012
Master Gold #52	Matt, W0NAC	June 5, 2012
USA-PA-"W" #9	Ray, WA5OPO	May 12, 2012

## Operating Events for County Hunters

We are getting into summer months. Not too many state QSO parties until fall. There should be lots and lots of mobile activity as folks head back from the National in Washington state!

July 28, 29

**NJ QSO Party**

<http://njqp.hamshack.info/>

Objective:

- Contact as many NJ amateurs in as many NJ counties as possible.

NJ stations contact as many Amateurs in the US, Canada and the world as possible.

Date/Time:

Last full weekend in July (July 28 29, 2012) from  
1200 EDST (noon) Sat (1600UTC) to 1600 EDST Sun (2000 UTC).

Suggested frequencies-

3.550, 3.825

7.050, 7.210

14.050, 14.250

21.050, 21.400

28.050, 28.400

and don't forget the US Counties Party covered above.