VK3AWS

WANSARC NEWS
October 2007

Volume 38
Number 10

October 2007

Western and Northern Suburbs Amateur Radio Club (WANSARC)
Incorporated in Victoria
A7611S

A WIA Affiliated club

News and views from the Western and Northern Suburbs Amateur Radio Club VK3AWS—OCTOBER 2007

VALE JOCK VK3UB—SILENT KEY

It is with regret that we advise WANSARC members of the passing of **Jock VK3UB.**

Jock passed away peacefully on Tuesday September 17, 2007.

Jock had been battling illness for some time, however even during this period Jock still attended meetings when able and supported WANSARC and its members.

VALE Jock VK3UB—Rest in Peace.

NEXT MEETING THURSDAY

OCTOBER 25 2007

WANSARC and NERG will combine forces to hold a SWAP and SELL night for equipment. Venue will be the NERG club rooms, 126 Mountain View Road, Briar Hill.

Commences at 8.00pm and is a night not to be missed. See inside this edition of WANSARC news.

Inside this issue:

The Restless Sun PART 2 *Past and Future of the Solar Cycle* by Peter VK3YSF**

Last month Peter introduced talked of Sunspot cycles, Solar Maximum / Minimum and 11400 years of sunspot history. This month a little more history and solar flares.

The year 1816 was referred to in American New England as “eighteen hundred and froze to death.”

See: A year without a summer http://www.mitosyfraudes.org/Calen/Year1816.html

Much earlier the **Sporer minimum** of 1400-1510 was also known as a "little ice age" and saw very few Sunspots. The world experienced an increase in famines, the Baltic Sea froze solid in the winter of 1422-1423 and colonies in Greenland were starved into oblivion.

An interesting comparison is between the above Yearly Average Sunspot Numbers and the below Yearly Average Mean Temperature for central England of a similar period of time. Apart from the two obvious correlations it is difficult to see many other links due to the general background temperature noise of other influences, but it is there or is it my imagination!

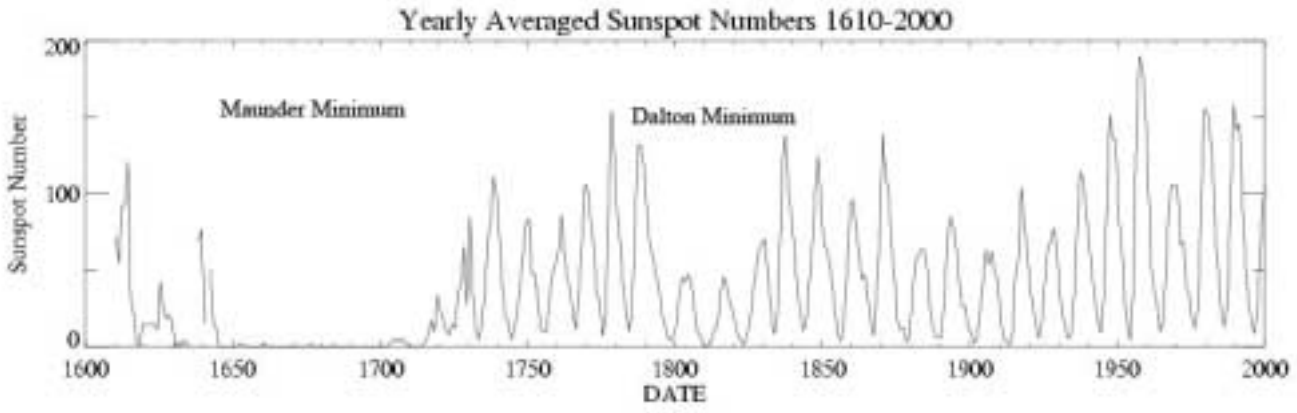


Figure 2: *Yearly average sunspot numbers from 1610 to 2000*

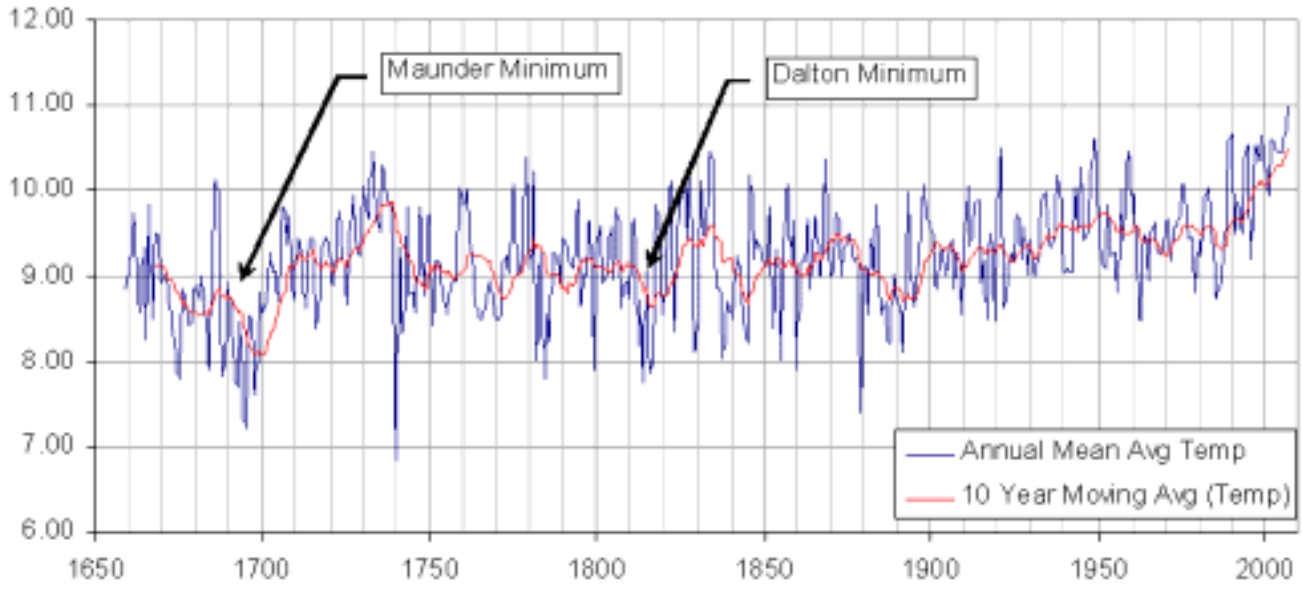


Figure 3: *The above chart of the annual* mean average temperature of central England has been graphed using an Excel spread sheet with data accessed from Met Office Hadley. *http://hadobs.metoffice.com/hadcet/*

These monthly temperatures are representative of a roughly triangular area of the United Kingdom enclosed by Lancashire, London and Bristol. The monthly series, which begins in 1659, is the longest available instrumental record of temperature in the world.

On a cheery note, I was born in July 1957 during possibly the largest solar-maximum for 11,000 years. I was trying to work up an angle on this one, but the best I can do is this. I'm a baby boomer and according to an entry in Wikipedia the baby boom also peaked around 1957.

Solar Flares

Solar flares and the related Coronal Mass Ejections (CME) are the violent explosions on the Sun's surface as a result of a release of stored magnetic energy in areas near sunspots.

These solar flares often affect the Earth's ionosphere and disrupt HF radio communications and produce higher noise levels on the VHF the bands.

Solar flare effects vary greatly in magnitude primarily due to the intensity of the explosion and if it is aimed at or away from the Earth. Solar flares are far more common during the Sun's solar maximum, but can occur at any time and often with out warning.

Variations in the solar wind and shockwaves caused by solar flares buffet the Earths natural magnetic field or magnetosphere causing the shifting magnetic lines of force to induce electric currents into long conductors like power transmission lines and even pipelines.

In 1998 a large flare induced magnetic storm totally shut down the electricity grid supplying Canada's Quebec province. The magnetic storm tripped five 735kV lines causing a loss of some 9450MW of power to the 21350MW load at the time. The system was not able adapt to the sudden loss of so much power and collapsed in very short order.

Currents induced in the long transmission lines and transformer core saturation which distorted voltages caused system protection to operate and disconnect the affected vital equipment.

The strongest flare recorded was in 1859 and witnessed by British astronomer Richard Carrington whom reported two patches of intensely bright white light coming from the sun. The telegraph which was the high technology of the day crashed, with reports in the United States and Europe, of the voltages induces into the long telegraph wires knocking operators unconscious and igniting fires due to the magnetic disturbance.

To gain a perspective on these events a moderate magnetic storm can be about -100nT (nano-Teslas), an extreme storm would be about -300nT, the storm that blacked out Quebec measured -589nT and the 1859 storm has been estimated to have been -1760nT. The implication of an 1859 type storm on today modern wired world would probably be dramatic.

An obvious question is how big could a solar flare be? On this I have not found any real material, however some other stars and stars similar in size and age to our Sun produce extremely violent flares very frequently, sometimes as often as every hundred years.

A particularly violent flare seen on a star slightly less massive than the Sun in twin star system known as II Pegasi was about one hundred million times more intense than a typical local solar flare. Had this flare occurred on the Sun we would not be here to tell the tale, along with most other life on Earth.

We are lucky that the Sun seems for the moment at least to be a much gentler star.

The Future

Solar cycle 24, which we are all looking forward too, is likely to be a significant solar maximum and perhaps if we are lucky it may be the second largest in modern times.

The Sun has circulating currents of hot plasma much like the ocean currents on Earth and according David Hathaway of the Solar Physics Group, NASA, the speed of the circulating current known as the Conveyor Belt determines the intensity of future solar maximum.

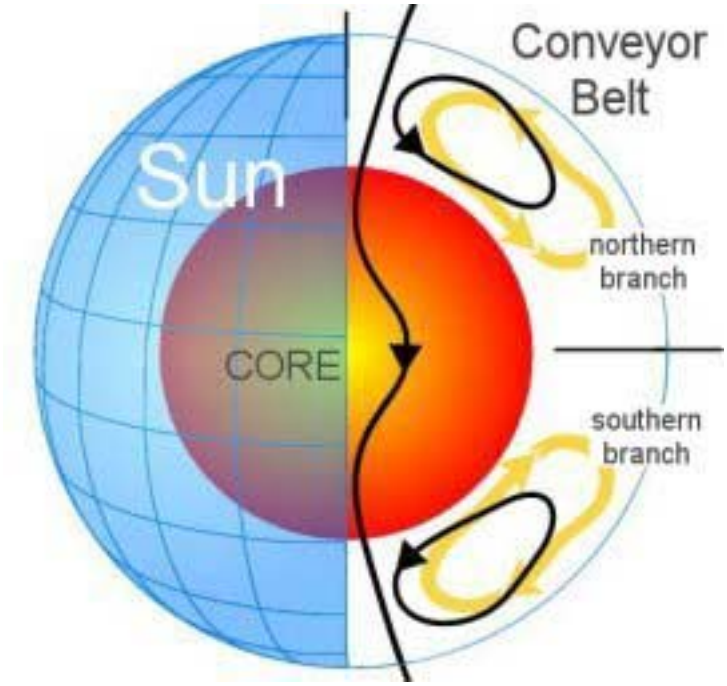
IN BRIEF……..

ACMA is advising amateurs to pay their licence renewals promptly to avoid the disappointment of having your callsign reallocated on the basis that you have failed to renew.

The 2008 WANSARC Family day will be held on January 20, 2008. More details in the next edition of WANSARC news.

The speed of the conveyor belt will determine the intensity of not the next solar maximum, but the one after.

The speed of the conveyor belt is measured by observing the speed at which sunspots move on the surface of the Sun. The conveyor belt moves across the surface of the Sun sweeping sunspots along with it and then plunges deep in to the interior to pick up more energy and returns to the surface, a process that takes from about 30 years to 50 years. See figure 4. (below



The conveyor belt was moving fast from about 1986 to 1996 meaning lots of magnetic fields will be swept up for the 2010-2012 solar maximum. This is the basis of Hathaway's prediction for solar cycle 24.

In recent years however the conveyor belt has slowed to a speed not seen before. The conveyor belt normally moves at about 1 metre per second and that's how it has been since the late 19th century, but the conveyor belt has decelerated to 0.75 metre per second in the north hemisphere of the Sun and to only 0.35 metre per second in the south. The slow down currently being observed mean that Solar Cycle 25 due to peak around 2022 to 2025 is likely be one the weakest in centuries. It is interesting to note Solar Cycle 25 could be similar to maximums recorded during the Dalton Minimum of 1790 to 1820. There is also speculation that the slow start to Solar Cycle 24 is an indicator of it also turning out to be very weak. Is the Sun about to go quiet again! Better not get rid of those woolly jumpers.

See http://science.nasa.gov/ for solar prediction stories among many other topics. Many stories are available as audio files.

Life under the Sun

The sun sustains all life on Earth and provides all our power even fossil fuelled power. It is not static, like us it has a beginning and an end and during its life it will change and evolve. On Earth we have no chose, but to enjoy what we get from the Sun and learn to adapt to its changes which are for the most part very gradual, but as research has discovered not always. *Happy DXing!*

73 de Peter Miles VK3YSF

***** Since penning this article for WANSARC, Peter has migrated to VK6 and is now VK6YSF. We look forward to more contributions from Peter in the near future.***

BERT HORAN VK3BH—SILENT KEY

It is sad to advise that a long time member and supporter of WANSARC in Bert Horan, VK3BH, passed away on September 23, 2007, after a long illness.

A number of WANSARC members attended Bert's funeral to pay their respects.

Bert had a wealth of experience, particularly in the aviation arena, starting as a lad in the RAF flying bomber aircraft. Post war Bert joined Ansett Airlines, rising through the ranks to be a Boeing 727 Captain.

Goodbye to a true gentleman of the airwaves and the club—VALE BERT HORAN VK3BH. Rest in peace.

CIRCLE THE CALENDAR……

Wansarc and our friends at NERG (North East Radio Group) are holding a combined "JUNK, SWAP AND SMALL SALE NIGHT" for club members at the NERG clubrooms, 126 Mountain View Road, BRIAR HILL.

The date is THURSDAY OCTOBER 25 (usual NERG coffee shop night).

This is to be fun night promoting interaction between two clubs—it is not a public hamfest, or even a quasi hamfest, however transactions of new and old radio items are encouraged, although in the main of a small financial value.

Graham from G&C communications will be in attendance with a few tables of desirable goodies. Graham may give a short talk on what's new. Credit card facilities will be available.

START time is nominally 8.00pm however early birds may congregate at 7.30pm to get first coffee!!

Members of NERG and WANSARC are invited to join in the fun.

Thanks to Don VK3KDT, of NERG, for these words of promotion.

See you on the night at NERG!!

FRIDAY DECEMBER 7, 2007 will be the **WANSARC CHRISTMAS DINNER** night.

This follows the success of the 2006 dinner with the venue to be the same, the NMIT Restaurant.

A three course meal will be available (actual items to be confirmed).

Cost will be $25 per head with a subsidy for members and their guests under consideration by the club Committee.

Could you please advise the Secretary, Mark VK3PI, of your intention to attend by contacting Mark via text or voice on 0400 44 32 18, or via email at vk3pi@optusnet.com.au.

NO PAYMENT is required at this stage, merely your intention to attend.

QSL CARDS AND PHOTO'S WANTED……

In 2009 WANSARC will celebrate its 40th birthday and your Secretary Mark VK3PI is collating information to produce a history of WANSARC.

This history will focus on the people who have made WANSARC what it is. To assist in compiling this history 2 blank QSL cards would be appreciated (one spare in just in case).

So if you have a QSL card, please provide a couple to Mark VK3PI.

Similarly if you have any photo's from WANSARC of old, we would love to see them and scan these for the history.

Email Mark VK3PI at VK3PI@optusnet.com.au

Thanks to Alan VK3SM and Laurie VK3DPF for their contributions.

WAQ – WORKED ALL QUEENSLAND AWARD.

Here is the chance to add another award to your collection. The WAQ award is administered and issued by The Queensland Advisory Committee for the WIA

WORKED ALL CITIES AND SHIRES.

Any amateur station may apply for this award. All you have to do is comply with requirements listed below.

1. **The award is tiered to 3 levels of achievement.** The first level may be applied for after the applicant has worked 50 of the listed cities and shires. The next level is attainable after 75 and the highest level of the award after 100 contacts to different areas have been confirmed. Only one contact in individual area is required. One certificate will be issued for the first level, after that the award will be updated and confirmed by the Award Manager appointed by the QAC at the time of application.

2. If an Amateur is operating as a fixed (home or club) station, a portable or mobile station in a Queensland Shire or City council area the operator is entitled to claim the shires and cities and towns they have made contacts from as worked areas.

3. Modes of operation are restricted to Phone, CW and Mixed. All bands may be used but are limited to simplex contacts. Cross band contacts are not accepted

4. All applications must be accompanied with the operators log, detailing the other stations worked callsigns, and the date, time, band and mode of the contacts. Both written and electronic logs will be accepted. The logs can be sent to the Award Manager*. The issuing of the certificate is done so on the honesty of the station applying.

5. All applications must be accompanied with payment for the postage of the certificate to you. For VK amateurs the postage of the certificate will cost $5.00. For stations applying from outside the VK call area IRC's for return postage to your address for a C4 size envelope. (the certificate is A4 size)

6. Since the rules changes have altered only contacts made after the **31st December 2005** will be counted.

A good place to look for contacts would be the 80m nets, which take place most evenings from many different areas of Queensland. The club call back after the rebroadcast of WIA NEWS on Monday nights on 3.605 MHz and The Jack Files Memorial Contest would also be a good hunting ground for different cities, towns and shires. There should be no problem reaching the initial level required to have a certificate issued. So why no give it a go and take the opportunity to add this certificate to your collection. **THE WORKED ALL QUEENSLAND AWARD IS ISSUED BY THE WIA**

Award manager- John Spooner VK4AJS vk4ajs@wia.org.au

***Log sheets with QLD cities and shires may be obtained from Dale VK4DMC at **vk4dmc@wia.org.au**

J.O.T.A October 2007

Jamboree of the Air (JOTA) is run each year to support the Scout, Girl Guide and Venturer movements in their endeavours to attain communication badges, contact other groups and generally have a great activities weekend.

Club member and Scout leader Ian VK3JQ is again seeking assistance from club members for the GOLDEN JUBILEE JOTA on Saturday October 21 and Sunday October 22, 2007.

If you have some time to spare and would like to contribute to spreading the "amateur radio word", contact **Ian VK3JQ** via email at:

vk3jq@yahoo.com.au

WELL DONE!!

Congratulations to Graeme VK3FTTG on his new callsign, ***VK3PGK****. Graeme caused some confusion on the most recent club net when he checked in!!*

And congrats also to Rod, VK3FRMT, who is now ***VK3MRT****. Well done, Rod!!*

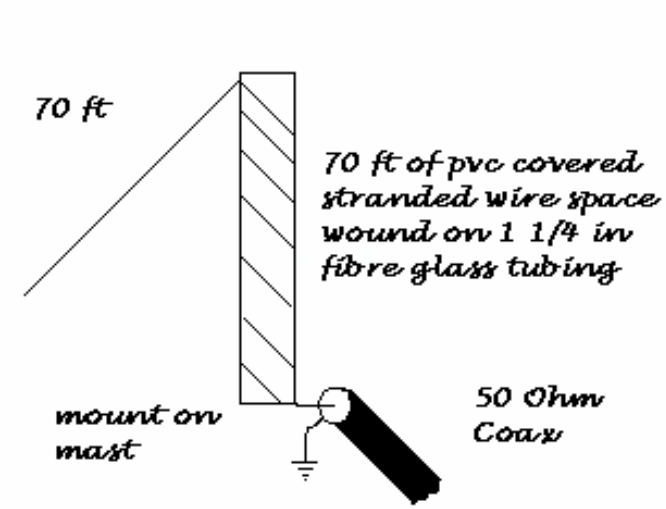
Your magazine contributors this month include—
Peter VK3YSF (now VK6YSF), Mark VK3PI, Ian VK3JQ, Bob VK3EL, Dale VK4DMC, Don VK3KDT.

Thanks folks!

WHAT ABOUT THIS ? Contributions from members

A Practical Antenna for 160 Metres

From Bob VK3EL



This aerial is one I have used for top band (160 metres) - it was suggested to me by Alan G4ERZ, also of Hull.

It consists of 140 feet of insulated wire, the first half of which (70 feet) is space wound on an insulated tube. I used glass fibre tubing which was to hand, but PVC may be used also. My tube is 1 1/2 inches in diameter and about 5 feet 6 inches long. The turns are about 0.5 inches apart. The other 70 feet of wire acts as a loading wire and slope down from the top of the coil to near ground level. The system is coax fed to the base of the coil, with the shield or braiding going to earth.

It appears to work very well, apparently giving some horizontal and vertical polarisation.

One great advantage is the system can be tuned without having to lower the mast - by pruning the loading wire to resonate on the required part of the band. Bandwidth is also good - mine is about 30 kHz either side of resonance. I found the MFJ Antenna Analyzer MFJ-259 invaluable for this project, as well as many other experimental systems. Ensuring an efficient earth system will add to the effectiveness of the aerial I still have to improve my earth system, currently it consists of two 140 ft radials and connections to some buried guys stays. Alan, G4ERZ, has a far more elaborate and efficient ground and his results prove what we all know - the ground (or earth system) is all important. He is a tremendous signal on 160 DX wise. He still gets the same band width as I do, though.

I have worked a few DX stations with it since erecting it only a short while ago, and I think it has a lot to offer, especially for those of us blessed with relatively small gardens.

If you try this idea out, please let me know how you get on with it.

Frank G3YCC

Footnote: Bob VK3EL has now built this antenna with excellent results. Bob utilised the antenna at Bundoora Park, north of Melbourne, working Ken VK3YXC with excellent signals. Bob was only running ten watts from his Icom IC-703.

More information and photographs from Bob in the November edition of the WANSARC newsletter.

WANSARC VK3AWS

PRESIDENT: Graeme McDiarmid VK3NE vk3ne@wia.org.au

SECRETARY: Mark Stephenson VK3PI Telephone: 0400 443 218
vk3pi@optusnet.com.au

All correspondence to be addressed to the SECRETARY: PO Box 336

RESERVOIR 3073

WANSARC CLUB PROFILE

History

The Western and Northern Suburbs Amateur Radio Club (WANSARC) was first formed in 1969 and since then has served the needs and interests of amateur radio operators, short wave listeners and those interested in hobby radio and electronics. The club is not gender specific, having both female and male members. Members come from all walks of life with a mix of experience, young and mature, novice and technical. The most important aspect of the club is the willingness of all members to share their knowledge for the benefit of others. Members mainly reside in the west and north of Melbourne; however membership is encouraged from all interested.

Meetings

Building K, Northern Metropolitan Institute of Technology (NMIT), St. Georges Road, Preston (Western side between Bell Street and Cramer Street) Melway 18 E12 *PARKING at NMIT- Members please note that parking adjacent to the club room building K is illegal and NMIT staff WILL book any cars which are parked in that area. ALL members must park cars in the main car park to the WEST of building K. Just look for vehicles with lots of aerials!* Meetings held on the 1st Friday of each month (excluding January) commencing at 7.30pm local time.

Talk in on 146.450MHz FM—call club station VK3AWS.

Benefits

Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of like minded radio and electronics enthusiasts, excellent club facilities and environment plus an informative monthly newsletter for members to post articles, news, classifieds for all radio, test equipment, etc, featuring Amateur Radio news from WANSARC, WIA, ACMA, Melbourne Clubs, VK and Worldwide.

Club Nets

146.450MHz FM each Tuesday evening commencing 7.30pm local time. Also monitor 28.470MHz on 10 metres USB.

More Information: **Website:** www.wansarc.org.au **Email:** **wansarc@wia.org.au**

Postal: **WANSARC PO Box 336 RESERVOIR 3073**

OCTOBER 25, NERG / WANSARC NIGHT AT NERG

Australia Post stamp here

If not delivered within 7 days please return to

WANSARC PO Box 336 Reservoir 3073

WANSARC is at www.wansarc.org.au 0r www.wansarc.org

CLUB FACES

So do you remember these faces circa late 1970's at the old ELIZABETH STREET CARAVAN PARK?? Second from left is George VK3LA, second from right Peter VK3AVE and last on right Russell VK3DRW. So who are the other chaps? Any clues contact Mark VK3PI. Do you have some happy snaps from the past. The club would like copies please. History is important to the club.

For sale

Come along to the WANSARC/NERG sell or swap meeting. Not a hamfest, just a good old fashioned inter-club get together. Thursday October 25, 2007 at the NERGS.