



## Chelmsford Amateur Radio Society

Established 1936

Affiliated to the RSGB  
President: Harry Heap G5HF  
Secretary: Martyn Medcalf G1EFL

Club Call Sign: G0MWT  
Chairman: John Bowen G8DET  
Treasurer: Brian Thwaites G3CVI

Newsletter No 488

Web Address: [www.g0mwt.org.uk](http://www.g0mwt.org.uk)

October 2006

### **This Month's Meeting - Annual General Meeting & CARS 70<sup>th</sup> Celebration. 3<sup>rd</sup> October. 7.30pm at the MASC.**

October seems to have come this year even earlier than normal - It is AGM time again. Thanks to the CARS Committee we have had a superb year of events and meetings.

Do you wish to hear anyone/anything in particular next year - this is YOUR opportunity to make a suggestion. Come along and hear what we have already lined-up for 2007.

After the (hopefully) short AGM, there will be a presentation about CARS and its fascinating 70-year-old history. CARS collects 1,000s of QSL Cards from its many Event Days, some will be displayed.

Come along for another interesting evening.

There will be a Celebration Raffle as well.

### **Dates for Your Diary**

October	Net Controllers: Harry G5HF (and David M0BQC in November)
Sun Oct 1 <sup>st</sup>	RSGB 21/28MHz CW/SSB Contest
Sat Oct 7 <sup>th</sup>	1.3 & 2.3GHz Trophy Contest
Sat/Sun Oct 7/8 <sup>th</sup>	Oceana DX Contest
Wed Oct 11 <sup>th</sup>	CARS Committee Meeting - Danbury Village Hall at 7.30pm - All invited.
Thu Oct 19 <sup>th</sup>	Essex Repeater Group AGM, Danbury VH – Free Refreshments, Raffle etc
Sat/Sun Oct 28/29	CQ WW DX - SSB Contest
Tues Nov 7 <sup>th</sup>	CARS Meeting - Chelmer & Blackwater Navigation - Colin Edmond

### **Contest Group - Congratulations**

The CARS Contest Group led by Steve G4ZUL with Patrick M0XAP, James 2E1GUA and Brian G3CVI entered the RSGB AFS SSB 2006 Contest. Most stations reported a lot of QRM. Well done to all concerned. It does show that CARS can enter Contests and make waves! See the Contest Calendar for October - is there something there you could enter - you can always check with Steve [contests2006@g0mwt.org.uk](mailto:contests2006@g0mwt.org.uk)

Our grateful thanks to Denis, M0FHA and Joy for posting this Newsletter. Could it have gone by E-Mail?

Please keep our Membership Secretary, informed of any changes to your callsign or E-Mail addresses, etc.

For further details contact our Programme Secretary: Martyn M3VAM on 01245-469008 or look on the CARS Web Site.

Club Nets: Tuesdays 8-30pm: (2nd) 145.375 : (3rd) 1.947 : (4th) 1.947 : (5th) 145.375. All +/- QRM.

## **RSGB Editor - Alex Kearns, M3LSZ.**

**By Trevor Hawkins, M5AKA**

CARS were privileged to have the Editor of Radcom, Alex Kearns M3LSZ, give a talk at the club.

Alex started by saying it was a great pleasure to be in Chelmsford the home of radio. He acknowledged the many exciting Amateur Radio activities that take place in Chelmsford especially David Worboys M0ZLB's recent reception of images from the International Space Station (ISS). He said that an article on this would be appearing soon in Radcom.

Alex gave a brief history of Radcom from its early days as the T&R Bulletin. Radcom is the house journal of the Radio Society of Great Britain, covering all matters directly related to the Society. The remaining pages are devoted to a number of regular columns such as Low Frequency, Amateur Television, VHF/UHF, Electromagnetic Compatibility, Propagation, Contesting and many other subjects. There are two or three in-depth technical articles per month, plus reviews of new equipment and other features, which relate to amateur radio as a whole.

First published in July 1925 as the T&R Bulletin (T&R originally stood for Transmitting and Relay) the magazine changed its name to RSGB Bulletin in July 1942. In 1968 the name changed again to Radio Communication, which was then abbreviated to Radcom in January 1995. It is the largest circulation amateur radio related magazine in the UK and is respected worldwide as a major voice of amateur radio.

The readers of the first T&R Bulletin would have been the scientist and engineers who had played a major role in the radio revolution that was sweeping the company at that time. One of those who deserves credit for the launch of the publication was RSGB President Sir Oliver Lodge, one of the countries pre-eminent scientists at that time, but the person who perhaps played the biggest role in launching the magazine was Henry Bevan Swift G2TI. It was his idea to produce a magazine and its name came from the section of the Society of which he was Chair – the Transmitting and Relay Section. Financial support for the magazine was provided by from Gerald Marcuse G2NM.

Alex described some of the significant changes that he's successfully introduced to the magazine in the 14 months since he took over as editor. He noted that, like previous design changes, it had taken a few months for people to get used to the new format (lets face it no-one likes change). There were a few minor adjustments in the early months and now most RSGB members had become accustomed to the new style.

He then outlined his vision for the future. Alex's idea for a knowledge database on the Members Only RSGB web pages certainly proved very popular among CARS members. The web permits a wide range of activities that simply couldn't be done by a paper-based publication and Alex is keen to take full advantages of them. Club members were impressed by Alex's desire to expand the services provided by the RSGB website, such as the publication of reference articles from previous Radcoms and the creation of Blogs. Alex stressed that these additional services should in no way detract from Radcom and that he intended to continue to further improve the magazine. He emphasised that the quality of the Radcom's content was the primary concern.

Alex then showed an RSGB video. Whilst the video was a bit outdated as it featured the previous Radcom Editor and Technical Editor (both of whom have since left) it nonetheless gave a valuable insight into the production of the magazine. It was surprising how few staff there are, just the Editor and Technical Editor with the rest of the work being out-sourced. The layout is done by Space Matters in London and the printing by Polestar in Colchester.

There was an extensive Question and Answer session during which members suggested a number of improvements that could be made to Radcom. One Foundation licence holder commented on the lack of material aimed at M3's. Alex acknowledged that currently there was not much material aimed at Foundation licensees to help them to progress on to Intermediate and Advanced licence and said he hoped to remedy that.

Alex then presented Chelmsford Award certificates to three club members, Martyn Medcalf G1EFL, Brian Thwaites G3CVI and Colin Page G0TRM. Martyn's award was particularly notable, as this was the first Echolink award to be issued.

It was only a couple of years ago that we had the previous RadCom editor, Steve Telenius-Lowe G4JVG, at the club. Since then we have seen dramatic changes in the publication and Alex gave us the rational behind them.

CARS wish to thank Alex for taking the trouble to travel all the way to the Chelmsford and give what proved to be a very informative and thought provoking presentation.

### **Related Links**

Space Matters:

<http://www.spacematters.co.uk/radiosociety.html>

Polestar:

<http://www.polestar-group.com/colchester/>

Chelmsford Award:

<http://www.g0mwt.org.uk/awardfold/award.htm>

## **Amateur Radio, Sixty years ago**

**By Vice President, Geoff Mills, G3EDM.**

As Chelmsford Amateur Radio Society (CARS) has just celebrated its 70<sup>th</sup> year I was asked if I could describe what it was like to be a ham when I got my first licence in 1946 and in particular, what it was like in the 50s and 60s.

I will start by telling you that my callsign, G3EDM, was allocated to me in May 1948 when the G3Cs were being allocated. It was possible to ask for a callsign ahead of those being allocated at the time. Later on, if such a request was made, you had to wait until the licensing authority got down the alphabetical list to the call you were requesting; and then later again this decision was reversed. My reason for requesting the call was that it contained the suffix letters "DM". I would have liked to have had G3DM but only three letter suffixes were being issued. The suffix DM was given me when I was first licensed in Hamburg, Germany in 1946 when I was working there for the Foreign Office and helping to restore the German telephone system to civilian use after the British and other armies had taken charge of it.

So my first callsign was D2DM and I was in good company in Hamburg with Rowley Shears and a number of others. Rowley, was of course, no other than G8KW of KW transceiver fame out of Dartford, Kent. Together with other British personnel we operated low power field day contests during 1946 to 1948, from a site at one of the water reservoirs serving the city of Hamburg. Field day was a 10 watts maximum affair using CW over the same weekend that the RSGB were holding their low power field day.

At other times I operated from the hotel, opposite the Hauptbahnhof (main railway station) where I lived during the time I worked in Hamburg and had two 20m dipoles, in line, strung between the roofs of two adjacent buildings. These dipoles could be driven in phase or out and so I was able to steer the lobes to maximise signals received and sent. I used CW or just amplitude modulation of a single 807 output bottle. No transistor stages, as bipolar transistors were not invented until 1947 by Bardeen, Brattain and Schockley at Bell Labs in the USA. The VFO was an electron coupled 6L6 oscillator (ECO) which had literally little frequency control by today's standards of stability control.

Transmitters had to be home built but I seem to remember that I acquired an HRO and an R104 (a British ex-army receiver) for reception. Changeover from transmit to listening was by hand (or foot) operated switch. However, I worked the world on CW and AM on that low power and kept in touch with stations back in the UK on a daily basis. At that time D2 was a relatively rare prefix and held only by British

civilians and armed forces members. I remember working one G7 station during that period and he was most upset when we said there were no such callsigns issued in G at that time.

Only recently has information been released and published in Radcom that these G7s were special licensees who were monitoring the bands for signals from German stations who were not barred from amateur radio, as we were, during the WWII years. Our equipment had been taken from us and stored, until after the war.

1946 was a very cold winter with my hotel room temperature dropping to -40°C overnight (-40°F). The North Sea froze over in late December that year. For six weeks or more the electricity from the mains, in Hamburg, came on only for two or three hours a day and to get over the lack of mains power I charged a 12 Volt secondary cell in series with an electric fire! It was lucky that the mains power was DC because I had no battery charger. The two lakes in the centre of the city froze over so that one could drive a car on the ice! Nonetheless I was able to put on air a relatively rare prefix and to work the world on AM and CW.

In 1948 I finished my work in Hamburg and then took out my G licence for which one had to pass a City & Guilds examination and a 12 words per minute Morse test, or be exempt by having other qualifications. Fortunately, I had some City & Guilds qualifications giving me exemption. As a Post Office (now BT) employee this licence cost me the princely sum of ten shillings (50p) at a time when everyone else had to pay £2. To my knowledge that was the only concession for anything.

I started my amateur activities as G3EDM using a WWII transmitter known as the B2, which was a small set dropped to agents in mainland Europe, to enable them to speak back to this country using CW. It was a crystal controlled rig and used separate coils for each of the bands starting around 80 metres and finished up by covering 20m. Amateur bands were covered easily on the B2. The listeners in this country were radio amateurs who passed on the messages they received to the appropriate government department using their own amateur radio equipment; G2ZG was one of these and he introduced me to amateur radio.

The B2 could be modified for variable frequency operation (VFO) using a homebrew Clapp oscillator, the coil and capacitor part of that circuit were in an outboard sturdy cubical steel box about four inches across. This box was connected to the B2 by two coaxial cables using standard TV type plugs and sockets and was made primarily for using in electrical power wiring. The coaxial cables enabled the box to be kept well clear, physically, from the rig which got quite warm after some use and that would have

caused drift in frequency as any QSO progressed. I managed to modify the B2 so that I could use it on top band (160m). I later built a rig for 160 and 80 metres using a miniature 807 valve and was able to anode modulate it using some 25 watts of audio to produce a typical amplitude modulated signal.

A lot of this audio simply warmed up the output valve. It was a commercial audio amplifier fed into the modulation transformer, taken from an ex-USA aircraft power supply, which was originally used at 800 Hz to transform to high voltages for subsequent rectification to DC. But 800 Hz was right in the centre of the speech band so it proved idea as a cheap modulation transformer. Also it had to withstand the high voltages applied to the final RF output valve. That is to say, around 600 volts dc. Why was 800 Hz used in aircraft as an AC power supply? Well, as all amateurs know our mains AC is generated at 50 Hz. But 800 Hz is 16 times this frequency and therefore the transformers could be 1/16<sup>th</sup> of the weight of a 50 Hz transformer. Fabulous, it enabled the aircraft to get airborne!! The corresponding commercial modulation transformer would have cost you at least three weeks wages. The RF output stage being modulated was operated in Class C; this allowed high efficiency (70%) in producing a useful amount of modulated RF.

With this equipment I worked all around the world on simple aerials such as end-fed wires and vertical wires. Some of the latter were wires just taped to bamboo canes. The canes were previously used to hold rolls of carpet and were up to 4 metres or so in length. The shops selling the carpets usually threw them away. Two or more were often strapped together. These vertical wires were loaded with a coil at the base to resonate them on 160m and 80m. For 40m and 20m I used dipoles. The verticals used an earth connection at the bottom of the coil and were made by driving 2m lengths of galvanised pipe into the Essex clay at the base of the vertical. The bottom of the vertical wire was tapped down the coil until it resonated in the band. The feed line was a coaxial, TV type, cable dropped into the ground using a slot cut with a spade. This cable was coupled with a 5 to 6 turn link to the coil using a Faraday screen made from a single turn of coaxial cable, the centre of which had been removed so that only the earthed copper screen and outer insulation remained. This produced good matching to the coax.

Operation, on air, was a bit thin for me in the mid-fifties as I decided to come and live in London and to work at Post Office Engineering headquarters as a Telecommunications Switching Engineer/Designer. Also, during this time I took a Degree in Engineering at London University in my own spare time using evenings and annual leave (No student debt...just no holidays!). In 1959 I moved house to live in Billericay where I was fortunate to be able to purchase a plot of

land long enough to support a half wave aerial on 160m. And that band remained a favourite for many years until I purchased a Versatower on which I mounted a 3-elements quad at a height of 20m. Also I built a HW100 valve transceiver from Heathkit and this was my main rig during the sixties. But it did not cover top band so I kept the separate AM/CW homebuilt rig for that purpose. The HW 100 was a single side-band rig using valves but the VFO used a bipolar transistor. It was fairly frequency stable after about half an hour's operation; thereafter it possibly drifted some 50Hz/hour, which was considered good.

During the sixties I got interested in direction finding (DF) contests usually held on a Sunday afternoons. This was after meeting the late Roy Martyr, G3PMX, who ran evening sessions where all participants stayed at home but took bearings of the transmitter. This prompted me to build a transistorised receiver for top band using a ferrite rod aerial and this design was written up at the time for Radcom (May 1969). Over 300 such receivers were built around two transistor modules made by Mullard. The DF receiver proved useful in helping to find pirates and on a number of occasions they were reported to the licensing authority who then sent out their Engineers to catch the pirates, having been given the address by cross referencing directions from up to six Radio Amateurs.

After the sixties, things moved on rapidly in the radio, telecommunication and electronic fields and we had to get used to combating break through on TV sets etc. But that's all another story. It was fun and that's what the hobby is about for most of us.

**Geoff Mills, G3EDM**

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## **New Callsigns - Trevor M5AKA**

Congratulations to Martyn G1EFL & M3VAM, on acquiring the new call sign of M0VAM

The opportunity to acquire multiple callsigns of the same licence class will end when Ofcom goes over to Online licensing. So if there's an additional call you've always wanted make sure you apply for it in the next few weeks.

See - Last chance to get an additional M0 callsign ?

[http://www.southgatearc.org/news/august2006/last\\_chance\\_m0.htm/](http://www.southgatearc.org/news/august2006/last_chance_m0.htm/)

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## **Essex Repeater Group AGM**

This friendly event will be on Thursday Oct 19<sup>th</sup> 7:30 at Danbury Village Hall. Do come along to support the Repeaters, renew subs etc. Free refreshments, a raffle and items for sale will be on offer!

## Chelmsford Award Via EchoLink

You can now get the Award by using EchoLink!!

- Only one Callsign shall be used per letter, a total of 30 callsigns will be required, obtained via different node numbers for each callsign.
- For Echolink entries you do NOT now have to make a contact with a station located in the Chelmsford, UK, Postal District.

An Example:

Call-sign W4TCL

Use C as letter for Chelmsford. Node Number 63231.

Country Identification letters are not allowed.  
Eg. W4TCL

If you require any further information please contact Martyn. G1EFL. m3vammartyn@supanet.com

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## October Contests - Steve G4ZUL

### RSGB 21/28MHz CW/SSB

1<sup>st</sup> October

Start:07:00 Finish:19:00 UTC

Exchange: RS(T) + Serial number + District Code

Sections: Open, Restricted & QRP.

Full rules & info from <http://www.rsgbhfcc.org/>

### 1.3Ghz & 2.3GHz Trophy

7<sup>th</sup> October

Starts:14:00 Finishes:22:00 UTC

Sections: SF, O (Special rules S6)

Full rules from <http://www.vhfcc.org/>

### OCEANA DX Contest

SSB: 7/8<sup>th</sup> October

Start 08.00, Finish 08.00 UTC 24Hrs

CW: 14/15 October

Start 08.00, Finish 08.00 UTC 24Hrs

Bands: 1.8, 3.5, 7, 14, 21 & 28MHz.

Exchange: RST + Serial Number.

Full details from <http://www.wia.org.au/>

### CQ WW DX - SSB

28/29 October, 48hrs

Bands: 3.5, 7, 14, 21 & 28MHz.

Exchange: RST + CQ Zone.

Categories: Single operator (single band & all band)

Multi operator (single TX, Two TX, multi TX)

QSO Points: own country 1 point, own continent

2 points, different continent 3 points.

Multipliers:

US States & VE areas 1 point, CQ Zones 1 Point

Final score: QSO points x Multipliers.

Full details from <http://www.cq-amateur-radio.com/>

HF contests are listed in January Radcom, p33.

For further information please email Steve G4ZUL - [contests2006@g0mwt.org.uk](mailto:contests2006@g0mwt.org.uk)

Tip-1:- Enter 'sm3cer' into Google, and look on his website - it is very comprehensive.

Tip-2:- The RSGB prefer Electronic Logs to help them with the tremendous task of checking so much data. These should be in the CABRILLO format.

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## New CARS Web Site by RSGB

Radcom Editor Alex Kearns mentioned that the RSGB had provided space on their new server for affiliated Clubs to have a free Web Site.

Thanks to Murray, G6JYB, you can now see it at -

<http://www.radioclubs.net/g0mwt/>

All the Clubs look somewhat similar but the hope is that information provided by CARS will be transferred to the RSGB Radcom and the weekend GB2RS News Bulletins more efficiently.

**Murray G6JYB**

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## Chelmsford Calling - Local Station

Coming soon to an FM Radio near you!. Local Broadcaster Chelmsford Calling, which recently won a licence from Ofcom, now has a basic website up & running, giving latest details.

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

**Jim, M3RMI**

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## Weather Station in the Antarctic

CARS has been contacted by Derek Shaw, Systems Administrator of MediaShed to enquire whether any Member would like to get involved in the construction of a Weather Station in the Antarctic. It will have to stand very low temperatures & winds of over 120mph. If you feel you could contribute to the project, contact Derek on [derek@techsys.co.uk](mailto:derek@techsys.co.uk)

See also: - <http://mediashed.org/>

Telephone 01702 460590

## Ofcom Revamps UK Amateur Radio Licence

Ofcom has announced significant changes to the UK Amateur Radio Licence document. They have clearly listened to the feedback on their original draft document issued on July 4<sup>th</sup> and incorporated a number of improvements. The original document will be withdrawn from their website to prevent confusion. This does not take effect until at least Dec 1<sup>st</sup> as it is all contingent on Ofcom's system being ready (delayed from October 1<sup>st</sup>)

Key features that will be in the new document are:

- Five Year revalidation now needed, not annual
- 28 MHz band access for Foundation Licensees
- Amateur Satellite access for Foundation Licensees
- 10 GHz band (1 Watt max) granted to Foundation Licensees
- Intermediates now get all higher Microwave Bands, preventing the loss of 76GHz+ access
- Easier use of commercially available rigs. This should ease the use of ex-PMR equipment
- Foundation kits merely need to be 'commercially available' as per IR2028
- Removal of emissions types from the schedules. which underpins innovation in new modes including Digital Voice and Digital Amateur TV
- User Services definitions have been revamped
- During disaster or emergency exercises, any UK Radio Amateur licensee can offer to pass exercise or emergency traffic
- Greater Clarity has been introduced for unattended Personal Beacons in the new Schedule-2
- Full licensees have unprecedented scope in Section 10 for unattended and remotely operated stations and beacons (for personal use) via secure links that may use Internet, WiFi or other amateur bands.
- Foundation and Intermediate licensees may use up to 500mW ERP to remotely control their station
- /A (Alternative fixed station) has been reintroduced and /P & /M are now more clearly redefined for temporary and mobile stations
- Callsign suffixes /A, /P, /M and /MM are now optional.
- Club prefixes remain optional (a change from the initial draft version) - eg GX etc
- Logbooks no longer mandatory, except for interference investigations

Ofcom are to be congratulated for consulting widely on the new document and for taking note of the feedback provided by Radio Amateurs.

**Trevor, M5AKA**

## Amateur and Ships' Radio Licensing Update

### Online Licensing Available from 1 December 2006

This document updates amateur and ships' radio licensees on the available date of lifetime licences and Ofcom's new online licensing system.

The new online lifetime licensing system is now planned to be available from **1 December 2006**. Ofcom will deliver a simplified service to existing and new licensees, and allow for a smooth transition of the licensing processes from, the Radio Licensing Centre (RLC), to Ofcom's head office. Ofcom will replace all valid annual licences with new free lifetime licences from December 2006.

### If you need to renew your licence or apply for a new licence in September 2006: (£15 as usual)

Contact the RLC as usual on 0870 243 4433  
<http://www.radiolicensingcentre.co.uk/>

### If you need to renew your licence during October, November or December 2006:

You will automatically be sent a new annual licence (standard BR68) to temporarily replace your old licence **which you will not be required to pay for**.

If you have a Direct Debit set up to pay for your licence this fee will not be collected. **We urge you to cancel any Standing Orders or BACS payment set up to pay for your annual licence.**

From 1 December 2006, new free online licences should be available. However, those applying via a paper-based application will be subject to a £20 charge.

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## 10m Access Delayed

Further to previous statements, 28MHz/10m band access for Foundation Licensees which was due to be available from Oct-1<sup>st</sup> is now postponed to Dec-1<sup>st</sup> (assuming Ofcom don't have to delay further)

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## When do I get the New Licence ?

Ofcom's stated position is that you personally have to wait for your renewal date until you get the new licence terms. This results in a one-year changeover period through 2007 when both licence terms may be around. Requests have led to this is being looked at to see a quicker changeover can be achieved.

## Sun Spot Cycle

Has the current Sun Spot Cycle reached its Minimum?

It has been reported the Sun has thrown out a pulse of the opposite polarisation. There are now reports of the first sunspots and solar flare of opposite magnetic polarity indicating that the new cycle is just beginning.

Brian, G3CVI said "Sometimes tuning the Band - it seems as though the receiver is dead."

Your observations requested, please.

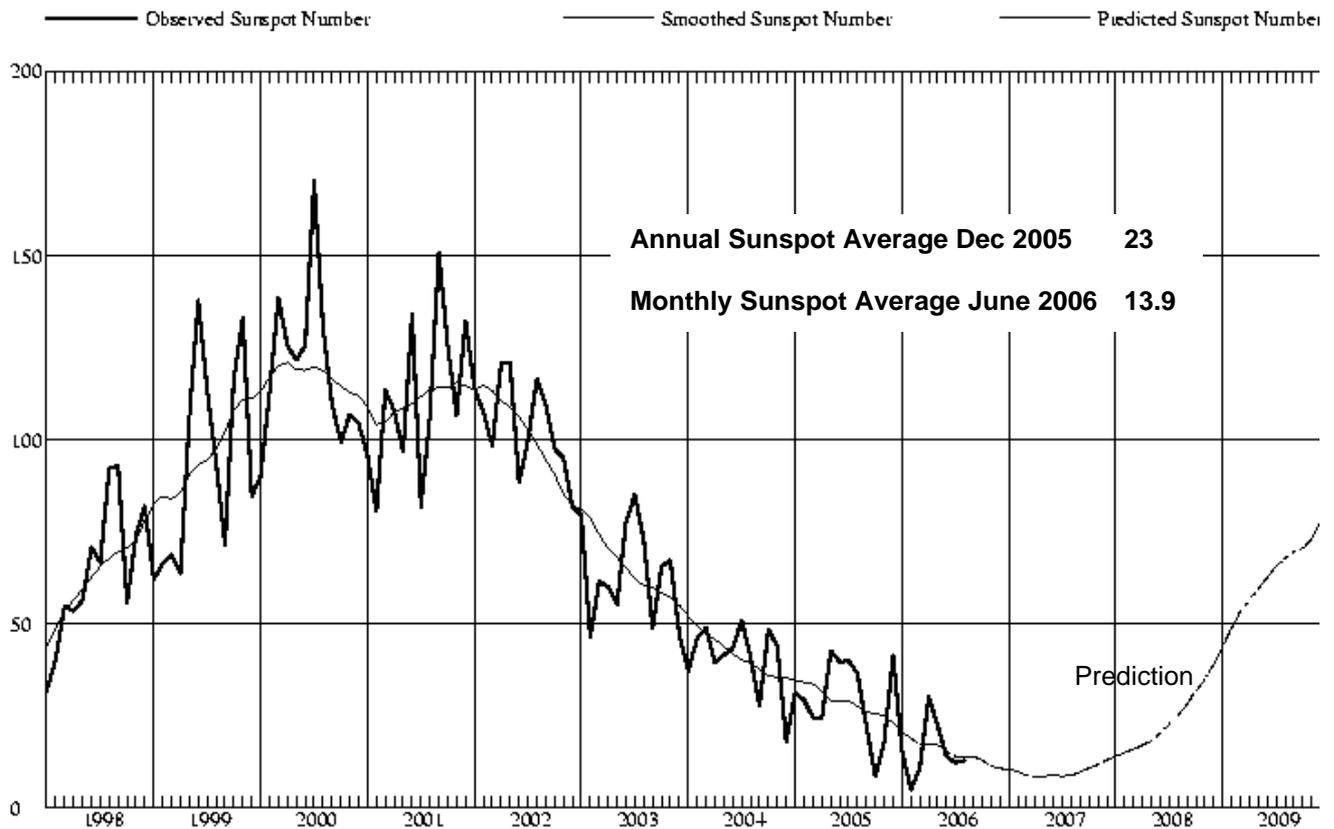
Plot by courtesy of Martyn, M0VAM.

**Contributions are always appreciated for the Newsletter. Cut-off date for the November N/L is Friday, 27<sup>th</sup> October.**

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## Sunspot Numbers

SUNSPOT NUMBERS FOR SOLAR CYCLE FROM 1998 TO 2009



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