



Western Suburbs Radio Club Inc.

August 2009 Newsletter

ZL1AC, Branch 03 NZART 3000 Great North Road New Lynn,
PO Box 15-122 New Lynn WAITAKERE 0640
President: Ian Sangster ZL1RCA, Vice President Ross Reddell ZL1VRR.
Secretary: Roy Milam ZL1WI. Newsletter Editor – John Neill ZL1NE
VHF Club Net Wednesday 07:30pm 146.525 MHz,
HF Club Net Fridays 07:30pm 3.623 MHz
Website <http://www.qsl.net/zl1ac>



Club Calendar

Saturday	8 th	August	Club Meeting – Working Bee from 9:30 am until 12 noon
Wednesday	26 th	August	Committee Meeting
Saturday	29 th	August	AREC Section Meeting 10:00 am until 12 Noon
Saturday	12 th	September	Club Meeting - To be announced
Wednesday	23 rd	September	Committee Meeting
Saturday	10 th	October	Used Equipment Sale
Monday	12 th	October	Club Meeting - To be announced
Wednesday	28 th	October	Committee Meeting
Monday	9 th	November	Club Meeting - To be announced
Wednesday	25 th	November	Committee Meeting
Monday	14 th	December	Club Meeting – Christmas BBQ and Social

Winter Meetings

The June, July, August and September Club Meetings will be held on Saturday mornings. This should be easier than turning out on cold and possibly wet winter Monday evenings.

August Meeting

The August meeting will be a working bee. Start time is around 9:30 am. Bring a few tools for a bit of basic outdoor maintenance.

July Club Meeting

The guest speaker at the July meeting will be Paul Wells-Green ZL1PWG who spoke on his recent time in Papua New Guinea. Paul was up there carrying out a survey of possible sites for wharfs on the longest river in Papua. Paul had some very interesting photos from the trip and of the way of life the locals who live along the river banks.

Waitakere Sprints

The Waitakere Sprints are complete. There was a good turn out for both the Phone and CW Sprints. If you participated then please submit your logs to:

Manager Waitakere Sprint
PO Box 72 397
PAPAKURA 2244

Email is the preferred method of log receipt. A Plain text file named (yourcallPh.txt or yourcallCW.txt) with a tab or space between each column. email prc@lhug.co.nz An email confirming receipt of logs will be sent as logs are received. Closing Date for Logs to be received is 1st September 2009.

Used Equipment Sale

The western Suburbs Radio Club Used Equipment Sale will take place on the 10th October 2009. The Club is currently collecting surplus equipment that can be sold to raise funds for the club. This sale is the clubs main fund raiser each year and ensures the continued financial viability of the club. If you have any surplus equipment, or know of any other non-club people that may have surplus equipment, that could be donated to the sale then please contact a member of the committee.

New Solar Cycle Prediction

From <http://science.nasa.gov/>

May 29, 2009: An international panel of experts led by NOAA and sponsored by NASA has released a new prediction for the next solar cycle. Solar Cycle 24 will peak, they say, in May 2013 with a below-average number of sunspots.

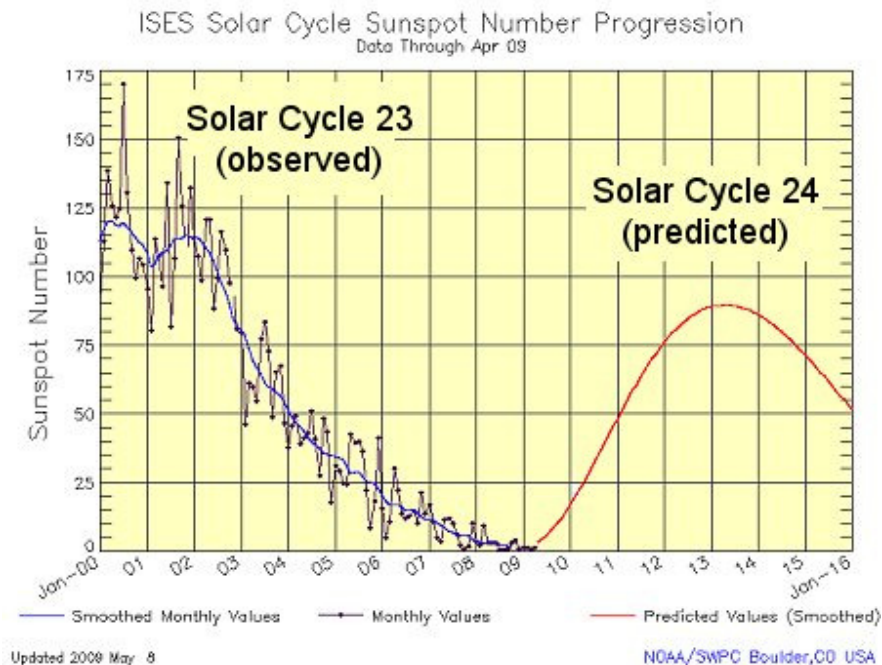
"If our prediction is correct, Solar Cycle 24 will have a peak sunspot number of 90, the lowest of any cycle since 1928 when Solar Cycle 16 peaked at 78," says panel chairman Doug Biesecker of the NOAA Space Weather Prediction Centre.

Right: A solar flare observed in Dec. 2006 by NOAA's GOES-13 satellite. It is tempting to describe such a cycle as "weak" or "mild," but that could give the wrong impression.



"Even a below-average cycle is capable of producing severe space weather," points out Biesecker. "The great geomagnetic storm of 1859, for instance, occurred during a solar cycle of about the same size we're predicting for 2013."

The 1859 storm--known as the "Carrington Event" after astronomer Richard Carrington who witnessed the instigating solar flare--electrified transmission cables, set fires in telegraph offices, and produced Northern Lights so bright that people could read newspapers by their red and green glow. A recent report by the National Academy of Sciences found that if a similar storm occurred today, it could cause \$1 to 2 trillion in damages to society's high-tech infrastructure and require four to ten years for complete recovery. For comparison, Hurricane Katrina caused "only" \$80 to 125 billion in damage.

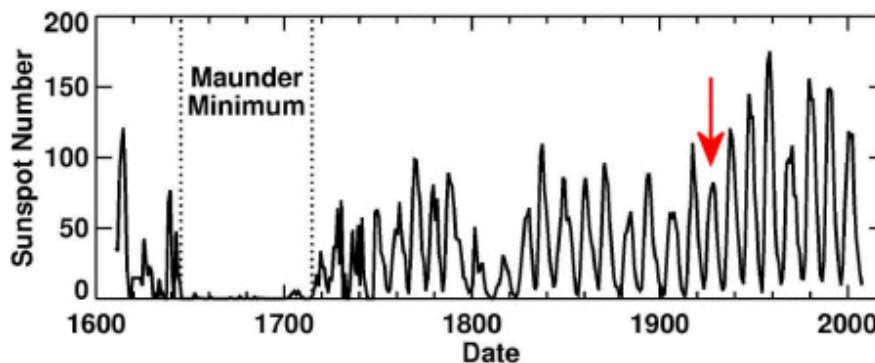


Above: This plot of sunspot numbers shows the measured peak of the last solar cycle in blue and the predicted peak of the next solar cycle in red. Credit: NOAA/Space Weather Prediction Centre.

The latest forecast revises an earlier prediction issued in 2007. At that time, a sharply divided panel believed solar minimum would come in March 2008 followed by either a strong solar maximum in 2011 or a weak solar maximum in 2012. Competing models gave different answers, and researchers were eager for the sun to reveal which was correct.

"It turns out that none of our models were totally correct," says Dean Pesnell of the Goddard Space Flight Centre, NASA's lead representative on the panel. "The sun is behaving in an unexpected and very interesting way."

Researchers have known about the solar cycle since the mid-1800s. Graphs of sunspot numbers resemble a roller coaster, going up and down with an approximately 11-year period. At first glance, it looks like a regular pattern, but predicting the peaks and valleys has proven troublesome. Cycles vary in length from about 9 to 14 years. Some peaks are high, others low. The valleys are usually brief, lasting only a couple of years, but sometimes they stretch out much longer. In the 17th century the sun plunged into a 70-year period of spotlessness known as the Maunder Minimum that still baffles scientists.



Above: Yearly-averaged sunspot numbers from 1610 to 2008. Researchers believe upcoming Solar Cycle 24 will be similar to the cycle that peaked in 1928, marked by a red arrow. Credit: NASA/MSFC

Right now, the solar cycle is in a valley--the deepest of the past century. In 2008 and 2009, the sun set Space Age records for low sunspot counts, weak solar wind, and low solar irradiance. The sun has gone more than two years without a significant solar flare.

"In our professional careers, we've never seen anything quite like it," says Pesnell. "Solar minimum has lasted far beyond the date we predicted in 2007."

In recent months, however, the sun has begun to show timorous signs of life. Small sunspots and "proto-sunspots" are popping up with increasing frequency. Enormous currents of plasma on the sun's surface ("zonal flows") are gaining strength and slowly drifting toward the sun's equator. Radio astronomers have detected a tiny but significant uptick in solar radio emissions. All these things are precursors of an awakening Solar Cycle 24 and form the basis for the panel's new, almost unanimous forecast.

According to the forecast, the sun should remain generally calm for at least another year. From a research point of view, that's good news because solar minimum has proven to be more interesting than anyone imagined. Low solar activity has a profound effect on Earth's atmosphere, allowing it to cool and contract. Space junk accumulates in Earth orbit because there is less aerodynamic drag. The becalmed solar wind whips up fewer magnetic storms around Earth's poles. Cosmic rays that are normally pushed back by solar wind instead intrude on the near-Earth environment. There are other side-effects, too, that can be studied only so long as the sun remains quiet.

Meanwhile, the sun pays little heed to human committees. There could be more surprises, panelists acknowledge, and more revisions to the forecast.

"Go ahead and mark your calendar for May 2013," says Pesnell. "But use a pencil."



Club Nets

VHF Net 146.525 MHz 7:30pm every Wednesday, HF Net 3623 KHz +/- QRM/QRN 7:30pm every Friday. All are welcome to check in on the nets. The full HF Net Roster can be found on <http://www.qsl.net/zl1ac/wsrc-hf-roster.html>

7-Aug-09	ZL1VRR	Ross
14-Aug-09	ZL1MW	Brian
21-Aug-09	ZL1NE	John
28-Aug-09	ZL1ACZ	Barry
4-Sep-09	ZL1WI	Roy
11-Sep-09	ZL1VRR	Ross
18-Sep-09	ZL1MW	Brian
25-Sep-09	ZL1NE	John

AREC

The next WSRC AREC meeting will see a day and date change. It will be held at the club rooms on Saturday 29th August. Start time will be 1000, and we will have some message handling and some hands on working with the F3 H/H. Hope this will be acceptable with all section members. This is to accommodate some of our section members who have other meeting on the same night.

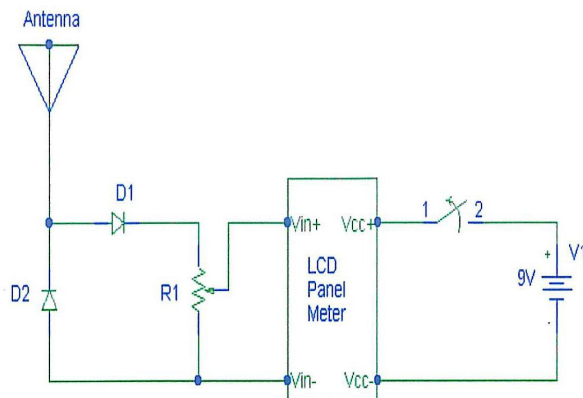
Field Strength Meter

The circuit is very simple, inexpensive and effective for testing antenna projects. The panel meter reads voltage directly with a full scale reading of 200mV. The rest of the circuit consists of a 9 volt battery and switch to provide power for the panel meter, a small telescoping whip antenna to pick up the RF, a couple of back-to-back germanium diodes to rectify the signal, and a 10 k ohm volume control potentiometer to adjust the sensitivity. None of the parts are critical. I mounted everything in a 5 x 2 ½ x 1 ½ inch project box.

Parts List

- 3 1/3 digit, 200 mV LCD Panel Meter
- 9v battery
- Battery connector
- Single pole ON/OFF switch
- 12 inch telescoping whip antenna
- 2 germanium diodes (1N34 or similar)
- 10 k ohm potentiometer
- Plastic project box to hold everything

Construction consisted mainly in cutting holes in the box for the panel meter, the antenna, switch and potentiometer using a Dremel tool. Connect the battery to the on/off switch and the meter power connections. Then the diodes, potentiometer, and antenna were wired and connected to the voltage input of the meter. Operation is simple. With power applied, the rectified voltage is directly read on the meter. For strong signals, the reading will go off scale, so the sensitivity can be adjusted with the potentiometer.



Field Strength Meter Circuit



Finished Meter