



WATTS

11-2016
Year 86 + 11m

Monthly Newsletter of the Pretoria Amateur Radio Club
Maandelikse Nuusbrieff van die Pretoria Amateur Radio Klub

✉ PARC, PO Box 73696, Lynnwood Ridge 0040, RSA
<http://www.parc.org.za> zs6pta@zs6pta.org.za



Bulletins : 145.725 MHz on Sundays / Sondag at 08:45
 Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
 Activated frequencies are announced prior to bulletins
Swopshop : 2m and 7.066 MHz live on-air after bulletins
 Bulletin repeats on Mondays / herhalings op Maandae : 2m 19:45

CQ HOU KOERS : Pieter Fourie ZS6CN en Nick Louw ZS6NWL



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Club Meetings / Klub Vergaderings

Club Social Meeting :

Saturday the 12th of November
2016 from 14h00 at SAM

Committee Meeting :

Wednesday the 9th of November
from 19h00 at SAM

PARC Fleamarket : 5 November 2016 from 10h00

The next Pretoria Amateur Radio Club Fleamarket will take place on the 5th of November from 10h00 at the Pretoria Old Motor Club, Keuning Street, Silverton.

Please do contact Almero du Pisani ZS6LDP (083-938-8955) for more information, or to book a table, or if you wish to donate any old equipment to PARC.

PARC Committee Members / Komiteelede : 2016 - 2017

<u>Elected Members</u>	<u>Name</u>	<u>Callsign</u>	<u>Email Address</u>	<u>Tel No</u>	<u>Mobile No</u>
Chairman, Web co-ordination	Graham Reid	ZS6GJR	greid@wol.co.za	012-667-2720	083-701-0511
Vice Chairman, Repeater & Rallies	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-9418	079-333-4107
Bulletins, RAE & Liason	Etienne Naude	ZS6EFN	etienne@afgrid.com	012-661-6745	082-553-0542
Treasurer	Andre van Tonder	ZS6BRC	andreh.vtonder@absamail.co.za	012-361-3292	079-869-0753
Clubhouse Manager	Pieter Fourie	ZS6CN	pieterzs6cn@gmail.com	012-804-7417	082-573-7048
Social	Whitey Joubert	ZS6JJJ	zs6jji@gmail.com	012-993-2267	072-120-4516
Secretary, Watts & RAE	Louis de Wet	ZS6SK	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
<u>Co-Opted Members</u>	<u>Name</u>	<u>Callsign</u>	<u>Email Address</u>	<u>Tel No</u>	<u>Mobile No</u>
Fleamarkets	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za	012-420-3779	083-938-8955
Auditor	Tony Crowder	ZS6CRO	tcrowder@telkomsa.net	011-672-3311	
Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	083-976-4387
Contests	Jaco Cronje	ZR6CMG	jacocronje@yahoo.com		081-474-2220
Contests	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799

Birthdays / Verjaarsdae – November

06 Solomon Conradie ZS6SV	16 Pierre Duminy ZS6FPS
12 Fritz Sutherland ZS6SF	25 Tony Crowder ZS6CRO
16 Vlasta Jancuskova ZS6-2501	

Spouse's Birthdays / Verjaardae – November

No Spouse's Birthdays

Anniversaries / Herdenkings – November

14 Sylvia en Tjerk Lammers ZS6P (Hon Mem)

Lief en Leed / Joys and Sorrows



It is with great sadness that we have learned of the passing of Burgher Johannes (Bridge) Barnard ZS6BJM (third from left), who was a member of PARC. Our sincere condolences with his wife and family.

November Birthstones : Topaz

Topaz, with the chemical formula $Al_2SiO_4(F, OH)_2$ is a silicate mineral consisting mostly of aluminum and fluorine, showing striking golden-orange (Imperial Topaz) or pinkish-red or orange-red colors. The most common, Imperial Topaz, with a blue color, is most commonly used for jewelry. The warm color is said to be a gift from the sun, and is believed to be a healing and calming gemstone, bringing warmth and fortune to those who wear them.



Contests and Diary of Events – November 2016 / Kompetisies en Dagboek van Gebeure – November 2016 (UTC Times)

05	RaDAR Challenge
05	Pretoria Amateur Radio Club Flea Market : 10h00 – 13h00
05 – 06	Ukranian DX Contest : 12h00 – 12h00
06	PEARS HF DX Contest
06	DARC 10-Meter Digital Contest : 11h00 – 17h00
12 – 13	WAE DX Contest, RTTY : 00h00 – 23h59
12 – 13	OK/OM DX Contest, CW : 12h00 – 12h00
13	SARL Youth Net
19	RSGB 2 nd 1.8 MHz Contest, CW : 19h00 – 23h00
19	Antique Wireless Association AGM and Swopmeet
24	RSGB 80m Club Sprint, CW : 20h00 – 21h00
26	AMSAT SA SDR Workshop : See SARL Website
26 - 27	CQ Worldwide DX Contest, CW : 00h00 – 24h00

PARC SUBS / LEDEGELD FROM / VAN 30-06-2016

Bank	First National Bank	Ordinary Members / Gewone Lede : R150 Spouses / Pensioners : R50	Your call sign must appear as statement text!
Branch Code	25 20 45		
Account No	546 000 426 73		

**Please remit your subs in time to our Treasurer, or pay per transfer into the PARC account
Betaal asb. u ledegelde betyds aan ons Tesourier, of betaal per oorplasing in die PARC rekening**

Please Note : If your Club fees are not paid up to date, birthday details cannot be displayed in Watts

CQ Hou Koers

Die CQ Hou Koers geleentheid het landswyd plaasgevind op 15 Oktober 2016, en het verskeie skole betrek. Tydens die dag, waar leerders vanaf graad 1 tot 7 bekend gestel is aan Amateur Radio, het lede van PARK by onder andere Laerskool Elarduspark (Johan ZS6JHB, Pieter ZS6CN en Nick ZS6NWL), 6-Myl Spruit en Fort Klapperkop (De Jager Burger ZS6ZO en Gideon van der Merwe ZS6GJV) hul diens aangebied. PARK bedank hiermee almal wat deelgeneem het vir hul moeite en betrokkenheid.



Pieter Fourie ZS6CN en skoonseun Nick Louw ZS6NWL



Pieter laat die leerders gesels en Louis ZS6SK saam met 'n woelige groep Graad 1 leerders



Jaco Cronje ZR6CMG, Christopher Coetzee ZU6CC en Uys Classen ZS6UYS het diens verrig by 6-Myl Spruit

RAE May 2017 Syllabus and Lectures

Lectures for the May 2017 Radio Amateur Examination will be presented by PARC from the 21st of January. The course presented by PARC is free of charge. For more information on the lectures, please do contact Etienne Naude ZS6EFN at etienne@afrigrid.co.za.

Week	Date	Material	Tutor	Chapter		Tutor
1	21-Jan-17	RAE Information Session	E/LdW/VH	1	Overview of Amateur Radio	E
2	28-Jan-17	Chapter 1 - 4	E	2	Operating Procedures	E
3	4-Feb-17	Chapter 5 - 7	E	3	Basic Electrical Concepts	E
4	11-Feb-17	Chapter 8 - 10	E	4	Resistance and Ohm's Law	E
5	18-Feb-17	Chapter 11 - 13	LdW	5	The Resistor and Potentiometer	E
6	25-Feb-17	Chapter 14 - 16	LdW	6	Direct Current	E
7	4-Mar-17	Chapters 17 - 19	LdW	7	Power in DC Circuits	E
8	11-Mar-17	Break		8	Alternating Current	E
9	18-Mar-17	Chapters 20 - 22	LdW	9	Capacitance and the Capacitor	E
10	25-Mar-17	Chapter 23 - 25	LdW	10	Inductance and the Inductor	E
11	1-Apr-17	Chapters 26 - 27	VH	11	Tuned Circuits	LdW
12	8-Apr-17	Chapters 28 - 30	E	12	Decibel Notation	LdW
13	15-Apr-17	Break		13	Filters	LdW
14	22-Apr-17	Chapters 31 - 33	E	14	The Transformer	LdW
15	29-Apr-17	Break		15	Semiconductors and the Diode	LdW
16	6-May-17	HF Assessment	E/LdW/VH	16	The Power Supply	LdW
17	13-May-17	Revision	E/LdW	17	Bipolar Junction Transistor	LdW
				18	The Transistor Amplifier	LdW
				19	The Oscillator	LdW
	21-May-16	RAE		20	Frequency Translator	LdW
				21	Modulation Methods	LdW
		E Etienne Naude		22	The Transmitter	LdW
		LdW Louis de Wet		23	Receiver Fundamentals	LdW
		VH Vincent Harrison		24	The Super Heterodyne Receiver	LdW
				25	Transceivers and Transverters	LdW
				26	Antennas	VH
				27	Propagation	VH
				28	Electromagnetic Compatibility	E
				29	Measurements	E
				30	Digital Systems	E
				31	Digital Communication Modes	E
				32	Safety Considerations	E
				33	Before You Go	E

Lecture notes for the RAE can be obtained from the SARL website at <http://www.sarl.org.za/public/licences/rae.asp>. The various files which can be downloaded required for study for the RAE include the following:

The following documents are available. Click on the document title to download a copy.

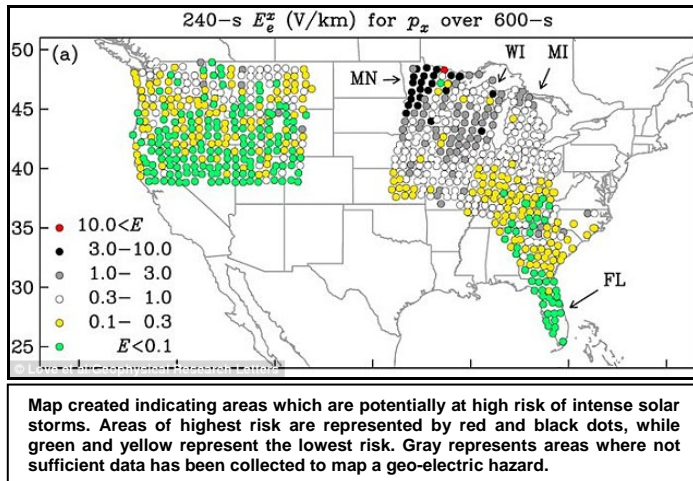
Reference Date	Document Title	File Type	Size
2016-06-14	SARL Inleiding tot Amateurradio - Klas A Studiegids	PDF	980 kB
2016-05-06	ICASA Regulations - Effective for Oct 2016 examination and onwards	PDF	286 kB
2016-05-05	SARL RAE Class A Study Guide - 2016 Effective for Oct 2016 exam and onwards	PDF	4.6 MB
2016-05-05	HF Assessment Preparation Guide - Effective for Oct 2016 Exam and onwards	PDF	1.3 MB

Venue and times:

Lectures will be presented in the Board Room of Waterlab (Pty) Ltd from 9h00 – 12h00 each of the dates (Saturdays) listed above. The address of the venue is 23B de Havilland Crescent, Perseus Park, Pretoria. Please do contact Louis de Wet ZS6SK at louis.zs6sk@gmail.com if you require more information on the venue.

Are we at risk from Solar Storms?

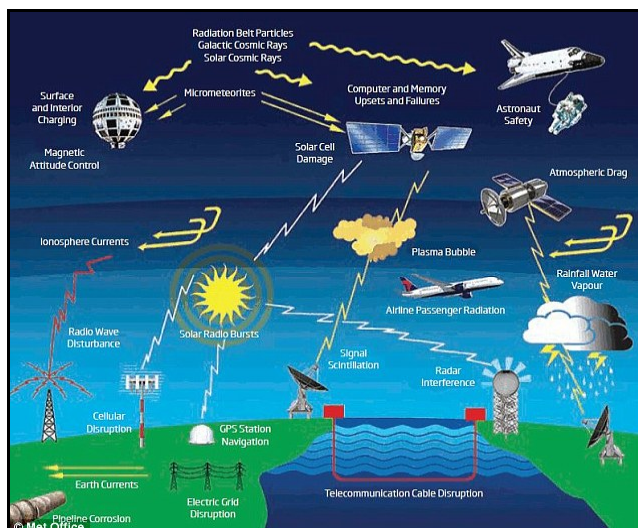
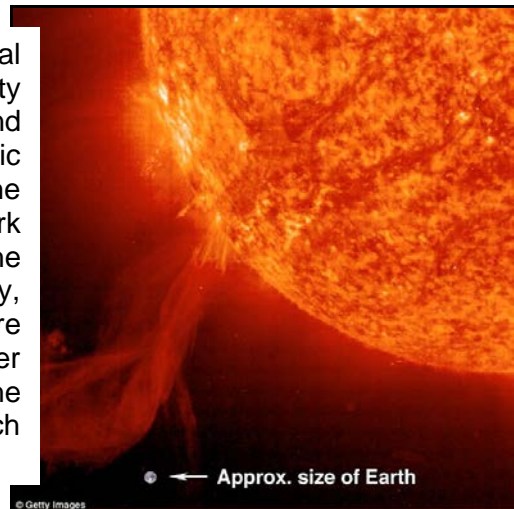
In a recent article in the Mail-Online website (24 October 2016) the question was stated: "Are you at risk from solar storms?" A Map produced reveals Minnesota in the USA to be the worst at risk by solar blasts that can knock out power to millions of people. Based on data obtained from geomagnetic storms, as well as magnetic materials beneath the Earth's surface, the map produced revealed that Minnesota and Wisconsin to be the highest at risk from geomagnetic storms. Even though these areas have been shown to be at risk, more than half of the US has not been surveyed yet do to a lack of sufficient funds. According to these researchers, solar storms threaten Earth about every 100 years, and warn that we are overdue for an intense solar storm/s.



Solar storms have the ability to disrupt Earth's magnetic field and wreak havoc on our electric power grids. A massive Electromagnetic Pulse (EMP) from solar flares could result in global damages of \$2.6 trillion, and can bring an end to modern civilization as we know it.

This map created by researchers from the US Geological Survey, is part of a project called Space Weather Operations, Research and Mitigation (SWORM), and was initiated by the White House's National Science and Technology Council in 2015.

In order to create an accurate map, the US Geological Survey researchers plotted the geomagnetic activity above certain areas and then gathered ground magnetometer data, or conducted a magnetotelluric survey. The geomagnetic data was collected by the International Real-Time Magnetic Observatory Network (INTERMAGNET), and organization which monitors the Earth's magnetic field. During a magnetotelluric survey, large electrodes are stuck into the ground, which capture signals. These signals indicate how rock layers, the water table and other factors down below could affect the conductivity of a specific region. It also reveals how much electricity a geomagnetic storm can gather there.



How Solar Flares could impact Earth

Solar flares can damage satellites and electronic devices on Earth.

Very large flares can create currents within electricity grids and disable energy supplies.

Detecting Solar Flares before they occur

Solar eruptions occur as a result of the sudden release of built up electromagnetic energy on the sun's surface, or corona.

During these coronal mass ejection events, loops called magnetic flux ropes arch out from the corona. However, when they reach out from the corona, they twist and destabilize, causing them to collapse back on the surface, resulting in a solar flare.

Solar storms could wreak havoc on Earth, and affect all electronic devices and power supply. Surges in areas such as Minnesota and Wisconsin could be up to 100 times more powerful than other areas. What could the effects be on South Africa?

Die Hallspeed Tydren : 4 -5 November 2016

Die laaste tydren vir die jaar, die Hallspeed tydren, het in Bronkhorstpruit plaasgevind tydens 4-5 November 2016. Die tydren het begin vanaf Godrich Toyota en het bestaan uit 2 trajekte gedurende vrydag en 6 trajekte gedurende saterdag. Weereens het die radio amateurs met groot entoesiasme deelgeneem aan die radio ondersteuning, en het bestaan uit JB de Beer ZR6YV (Beheer), John ZR6JAO (Mobiël 1), Tony Crowder ZS6CRO (Mobiël 2), Menno Havelaar ZS6AGC (Kar 0) en Chris Barnard ZS6CMB (Marshal 1). Die veldstasies en beman deur Graham Reid ZS6GJR en gade Joey (Zig Zag 1 & 2), Pieter Fourie ZS6CN en gade Annatjie (Zorgvliet 1 & 2), Pieter ZS6PAM en Irene ZS6IEA Myburgh (Johan Els 1 & 2) en Johan de Bruyn ZS6JHB en Louis de Wet ZS6SK en seun Eugene (Yump 1 & 2).

PARK bedank hiermee almal hartlik vir hul hulp en betrokkenheid tydens die 2016 tydrenne. Die rooster vir 2017 sal wanneer beskikbaar, in Watts gepubliseer word.



Van die deelnemers gereed by die wegspring punte SSS2 & SSS6



Van die deelnemers in aksie tydens die tydren. Fotos deur Eugene



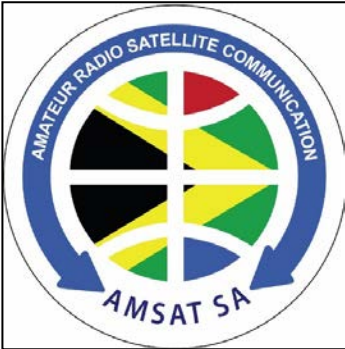
Die legendariese “Welkom-wa” waar tydbeheer en radio kommunikasie gelyktydig plaasgevind het. Fotos deur Irene ZS6IEA



Die “Welkom-wa” en personeel in aksie!

Johan ZS6JHB demonstreer hoe antenna ontwerp en besproeiings tegnologie effektief gekombineer word..

AMSAT SA SDR WORKSHOP



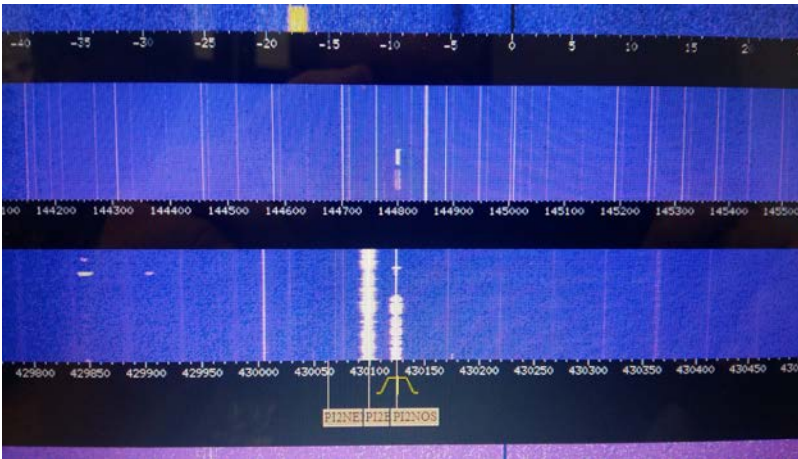
The AMSAT SA SDR (Software Defined Radio) Workshop in association with the South African Radio League will be held on Saturday, the 26th of November at the SARL National Amateur Radio Centre, Sender Technology Park, Octave Street, Radiokop, Roodepoort.

Proceedings will be opened by President of SARL, Nico van Rensburg, ZS6QL. The program will include the following interesting items:

- Software Defined Radio Fundamentals, which include two 20 minutes videos explaining the principles of SDR by Anton Janovsky ZR6AIC.
- AMSAT SA Digital transponder, telemetry and command system by Anton Janovsky ZR6AIC and Cor Rademeyer ZS6CR

Please consult the SARL and AMSAT-SA websites for more information on the program and registration.

If you are interested in Web SDR, visit the website <http://www.amsatsa.org.za/SDR.htm> , which provides two links, namely the Fontys University site at <http://194.26.14.204/> , and a site created by Pieter Tjerk de Boer PA3FWM which can be found at <http://www.websdr.org/>. This particular site provides numerous links to other web based SDR sites worldwide.



Screen view of web SDR showing HF, VHF and UHF bands from the Fontys University, Eindhoven

Antique Wireless Association : AGM and SWOPMEET 2016



*Antique Wireless Association
of Southern Africa*

The Antique Wireless Association Annual General Meeting and Swopmeet 2016 will take place on Saturday, the 19th of November, from 10h00, at the SAIEE (South African Institute of Electrical Engineers) 18A Gill St., Observatory, Johannesburg.

From 8h30 the Museum Station ZS6IEE will be on-air for those who wish to come early. Bring a chair, and something for the braai, and a table if you wish to sell any goodies.

For more information, please do contact Jacques ZS6JPS at jscholtzp@gmail.com or Andy ZS6ADY at andyzs6ady@vodamail.co.za.

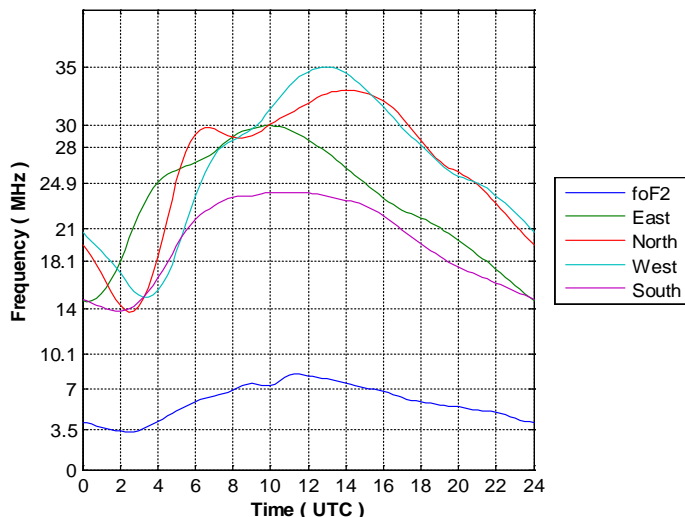
Magaliesberg Antennas : some interesting photos



Going up the Magaliesberg with the cableway not only provides a stunning view of Hatbeespoort Dam and surroundings, but also a variety of very interesting antennas enabling communications in various directions around the dam.



Pretoria Critical Frequency and 4000 km MUF - November 2016



Long Term HF Propagation for November 2016

DX Operating

The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating

The F2 critical frequency (foF2) is the maximum F-layer frequency for short range communications.

See also the Propagation tab at <http://www.parc.org.za/>

Courtesy Vincent ZS6BTY

C/O NELSPOORT & 801 MALMESBURY STR, WINGATE PARK, PRETORIA [S25.49.36 & E28.16.07]

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Contact Hans at 012-333-2612 or 072-204-3991

