



# WATTS 2019-04

Year 89 + 04m

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](mailto:zs6pta@zs6pta.org.za)



**Bulletins : 145.725 MHz : Sundays from 08h45 / Sondag vanaf 08h45**  
 Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz  
 and Echolink. Activated frequencies are announced prior to bulletins  
**Swoopshop : 2m and 7.066 MHz live on-air after bulletins**  
 Bulletin repeats on Mondays / herhalings op Maandae : 2m 19h45



*At the recent AMSAT SA Space Symposium: Albert Schreuder ZS6SE, Thobile Koni ZS6TKO of PARC and Brian Jacobs ZS6YZ. More on pages 5 to 9.*

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## Club Meetings / Klub Vergaderings

### Club Committee Meeting :

**The next Committee Meeting will be on Tuesday, the 17<sup>th</sup> of April 2019 from 18h30 at Pretoria Old Motor Club.**

## PARC Committee Members : 2018 – 2019 / PARK Komiteelede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Louis de Wet ZS6SK	Chairman, Watts, Club History	<a href="mailto:louis.zs6sk@gmail.com">louis.zs6sk@gmail.com</a>	012-349-1044	072-140-9893
Graham Reid ZS6GJR	Vice Chairman, Treasurer, Website	<a href="mailto:greid@wol.co.za">greid@wol.co.za</a>	012-667-2720	083-701-0511
Etienne Naude ZS6EFN	SARL Liaison, Bulletin Coordinator	<a href="mailto:etienne@afgrid.com">etienne@afgrid.com</a>	012-661-6745	082-553-0542
Irene Myburgh ZS6IEA	Club Secretary	<a href="mailto:irene@srsa.gov.za">irene@srsa.gov.za</a>	012-304-5109	082-462-6001
Johan de Bruyn ZS6JHB	Rallies, Repeaters & Membership	<a href="mailto:zs6jhb@gmail.com">zs6jhb@gmail.com</a>	012-803-9418	079-333-4107
John Minter ZS6LED	Technical & RAE Training	<a href="mailto:john.minter.za@gmail.com">john.minter.za@gmail.com</a>	012-349-0019	083-291-5422

## PARC Co-opted Members : 2018 – 2019 / PARK Ge-koopteerde Lede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Alméro Du Pisani ZS6LDP	Flea-markets	<a href="mailto:almero.dupisani@up.ac.za">almero.dupisani@up.ac.za</a>	012-420-3779	083-938-8955
Tony Crowder ZS6CRO	Auditor	<a href="mailto:tcrowder@telkomsa.net">tcrowder@telkomsa.net</a>	011-672-3311	
Nic Louw ZS6NWL	Youth Development	<a href="mailto:nic.louw@telkomsa.net">nic.louw@telkomsa.net</a>		083-596-1026
Whitey Joubert ZS6JJJ	Social & Competitions	<a href="mailto:zs6jjj@gmail.com">zs6jjj@gmail.com</a>	012-993-2267	072-120-4516
Pierre Holtzhausen ZS6PJH	Competitions	<a href="mailto:zs6pjh@gmail.com">zs6pjh@gmail.com</a>		082-575-5799
Pieter Myburgh ZS6PAM	Repeaters	<a href="mailto:wooden@mweb.co.za">wooden@mweb.co.za</a>		076-140-7562

## Birthdays and Anniversaries / Verjaarsdae en Huweliks Herdenkings

### Member's Birthdays April 2019 / Lede Verjaarsdae April 2019

10 Nic Louw ZS6NWL	24 Jaco Steyn ZSL6119
16 Andre Roux ZS6ARX	29 Jyri Hamalainen ZR5AAE
19 Etienne Naude ZS6EFN	

#### Spouse's April 2019 / Gades April 2019

10 Joey, spouse of Graham Reid ZS6GJR  
 15 Joanne, spouse of Evan Seligmann ZS6ELI  
 16 Andre, gade van Marike Roux ZS6MRX  
 22 Marita, gade van Roy Alexander ZS6MI  
 27 Ronel, gade van Emil Bohme ZS6EGB  
 29 Heather, spouse of Vincent Harrison ZS6BTY

#### Anniversaries April 2019 / Herdenkings April 2019

06 Lyn en Andre van Tonder ZS6BRC (Erelid)  
 10 Joanne and Evan Seligmann ZS6ELI  
 30 Joey and Graham Reid ZS6GJR

### Member's Birthdays May 2019 / Lede Verjaarsdae Mei 2019

03 Andries Schoombee ZS6SCH	25 Tjerk Lammers ZS6P (Erelid)
06 Lourens Erasmus ZS6KRT	26 Vitor Gouveia ZS6VG
06 Christopher Coetzee ZU6CC	30 Dave Gough DAVEP
14 Johan Momberg ZS6BPB	31 David Botha ZS6O
17 Vincent Harrison ZS6BTY	31 Gawie Basson ZS6GJJ
21 Outie Dorfling ZS6LMD	31 George Ellis ZS6GWE
24 Sybie van der Spuy (No callsign)	

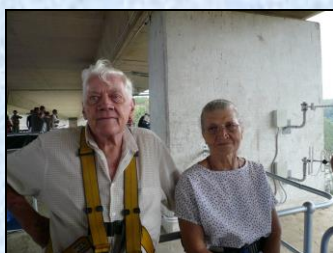
#### Spouse's May 2019 / Gades Mei 2019

No Spouse's birthdays in May

#### Anniversaries May 2019 / Herdenkings Mei 2019

01 Ria and Peter Smith-Curren ZS6PJ

## Lief en Leed / Joys and Sorrows



PARC has received notification of the passing of Peter and Olga Gast on the 9<sup>th</sup> of August 2017. Peter was a member of PARC for many years, and very active, here seen on with his wife before a bungy jump before his 80<sup>th</sup> birthday. Peter was the father of Dr Kevin Gast and Gary Gast ZR6GK, who is a Member of PARC. Our sincere condolences with Kevin, Gary and Family.

## PARC Membership Fees / PARK Ledegelde

During the 2018 AGM, the decision was made that Club Fees would not be increased for the financial year. Club Fees therefore remain at R160 for Ordinary Members, and R60 for Pensioners and Spouse. Gedurende die 2018 AJV, die besluit is geneem dat Klub Ledegelde nie verhoog sal word nie. Dus bly die gelde op R160 vir Gewone Lede, en R60 vir Pensionarisse en Gade.

### PARC SUBS : PARK LEDEGELD : FROM / VANAF : 30-06-2018

Bank	First National Bank	<b>Ordinary Members / Gewone Lede : R160 Spouses / Pensioners : R60</b>	<b>Your call sign must appear as statement text!</b>
Branch Code	25 20 45		
Account No	546 000 426 73		
<b>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 oorpasing in die PARC rekening</b>			

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

## PARC Bulletin Roster / PARK Bulletin Rooster

PARC Bulletins are presented on Sunday mornings at approximately 08h45, after the SARL Bulletins in English and Afrikaans, from 08h15. The Bulletin Presenters for the following two months are presented below. Please do contact the applicable presenter beforehand if you wish to make a contribution to the Bulletin. PARC Bulletins are broadcast on the 2 meter repeater on 145.725 MHz, and 70 cm on 438.025 MHz. Relays are done on 7.060 MHz by Hans Kappetijn ZS6KR and on Echolink by Johan Lehman ZS6JPL. A re-broadcast of the Bulletin is done the following Monday evening at 19h45 by Hans ZS6KR.

PARK Bulletins word op Sondagoggende aangebied om 08h45, na die SARL Bulletins in Engels en Afrikaans, vanaf 08h15. The Bulletin aanbieders vir die volgende twee maande word onder aangedui. Kontak gerus die toepaslike Bulletin leser indien u 'n bydrae tot die Bulletin wil maak. PARK Bulletins word uitgesaai op die 2 meter Herhaler op 145.725 MHz, en 70cm op 438.205 MHz. Herleidings word gedoen op 7.060 MHz deur Hans Kappetijn ZS6KR, en op Echolink deur Johan Lehman ZS6JPL. 'n Heruitsending van die Bulletin geskied die opvolgende Maandag aand om 19h45 wat behartig word deur Hans ZS6KR.

### PARC Bulletin Presenters : January - April 2019

Date	Presenter	Date	Presenter
20 January 2019	Johan de Bruyn ZS6JHB	24 March 2019	Louis de Wet ZS6SK
27 January 2019	Louis de Wet ZS6SK	31 March 2019	Etienne Naude ZS6EFN
3 February 2019	Etienne Naude ZS6EFN	7 April 2019	Alméro Du Pisani ZS6LDP
10 February 2019	Alméro Du Pisani ZS6LDP	14 April 2019	Johan de Bruyn ZS6JHB
17 February 2019	Johan de Bruyn ZS6JHB	21 April 2019	Louis de Wet ZS6SK
24 February 2019	Louis de Wet ZS6SK	28 April 2019	Etienne Naude ZS6EFN
3 March 2019	Etienne Naude ZS6EFN	5 May 2019	Alméro Du Pisani ZS6LDP
10 March 2019	Alméro Du Pisani ZS6LDP	12 May 2019	Johan de Bruyn ZS6JHB
17 March 2019	Johan de Bruyn ZS6JHB	19 May 2019	Louis de Wet ZS6SK

## PARC Fleamarket Dates 2019 / PARK Snuffelmark Datums 2019

The following dates are set for PARC Flea Markets in 2019:

The volgende datums is vasgestel vir PARK Snuffelmarkte in 2019:

**3 August / 3 Augustus ; 2 November**

To book a table, please do contact: / Om 'n tafel te bespreek, kontak gerus:

[Alméro Du Pisani ZS6LDP at 083-938-8955](mailto:almero.dupisani@up.ac.za) or [almero.dupisani@up.ac.za](mailto:almero.dupisani@up.ac.za)

## Diary of Contests & Events / Dagboek van Kompetisies en Gebeure

Contests and Events - April 2019 / Kompetisies en Gebeure - April 2019 (UTC Times)	
01	RSGB 80m Club Championship, CW: 19h00Z - 20h30Z
04	SARL 80m QSO Party: 17h00Z - 20h00Z
06	RaDAR Challenge
06	Pretoria Amateur Radio Club Flea Market: From 10h00 at Pretoria Old Motor Club
06 - 07	SARL VHF/UHF Digital Competition
06 - 07	SP DX Contest 15h00Z - 15h00Z
10	RSGB 80m Club Championship, SSB: 19h00Z - 20h30Z
13	SARL Day of the Radio Amateur: SARL AGM and Awards Dinner, Stellenbosch
13 - 14	JIDX CW Contest: 07h00Z - 13h00Z
14	Hungarian Straight Key Contest: 15h00Z - 17h00Z
18	World Amateur Radio Day: "Celebration of the contribution of Amateur Radio to Society"
19 - 20	Holyland DX Contest: 21h00Z - 21h00Z
20 - 21	YU DX Contest: 21h00Z - 17h00Z
25	RSGB 80m Club Championship, Data: 19h00Z - 20h30Z
27 - 28	10-10 International Spring Contest, Digital: 00h01Z - 23h59Z
27 - 28	SP DX RTTY Contest: 12h00Z - 12h00Z
27 - 28	Helvetia Contest: 13h00Z - 12h59Z
Contests and Events - May 2019 / Kompetisies en Gebeure - Mei 2019 (UTC Times)	
04 - 05	Antique Wireless Association of SA: Vale QSO Party; Riebeeck Valley Olive Festival
04 - 05	10-10 International Spring Contest, CW: 00h01Z - 23h59Z
04 - 05	ARI International DX Contest: 12h00Z - 11h59Z
11 - 12	VOLTA WW RTTY Contest: 12h00Z - 12h00Z
13	RSGB 80m Club Championship, SSB: 19h00Z - 20h30Z
18	May Radio Amateur Examination (RAE): 10h00 - 13h00 CAT
18 - 19	His Majesty King of Spain Contest, CW: 12h00Z - 12h00Z
20	SARL QRP Contest: 12h00 - 15h00
22	RSGB 80m Club Championship, Data: 20h00Z - 20h30Z
25 - 26	CQ WW WPX Contest, CW: 00h00Z - 24h00Z
30	RSGB 80m Club Championship, CW: 19h00Z - 20h30Z

More information can be obtained from the SARL website, as well as the WA7BNM contest calendar at the following website: <http://hornucopia.com>

### PARC Participation in Local Contests for 2019

The Pretoria Amateur Radio Club intends getting back with full force into the contest game during 2019. Under the leadership of Pierre Holtzhausen ZS6PJH, PARC is going to participate in all the South African Radio League contests hosted in 2019. Details of local contests are listed below:

#### **South African Radio League QRP Contests:**

**Autumn: (NEXT UP) 20 April 2019: 12:00 to 15:00 UTC From Fort Schanskop**

**Winter:** 20 July 2019: 12:00 to 15:00 UTC

**Spring:** 12 October 2019: 12:00 to 15:00 UTC

#### **South African Radio League National Field Days:**

**Spring:** 10:00 UTC on Saturday 14 September to 10:00 UTC on Sunday 15 September 2019

#### **South African Radio League HF Phone, Digital & CW Contests from home:**

**SSB:** 14:00 to 17:00 UTC on Sunday, 4 August 2019

**Digital:** 14:00 to 17:00 UTC on Sunday 18 August 2019

**CW:** 14:00 to 17:00 on Sunday 25 August 2019

For more information on contest participation, please do contact Pierre Holtzhausen ZS6PJH at [zs6pjh@gmail.com](mailto:zs6pjh@gmail.com) or 082-575-5799.

## AMSAT SA Space Symposium: Report by Louis de Wet ZS6SK

The AMSAT SA Space Symposium was held on the 16<sup>th</sup> of March 2019, at the Premier Hotel, Midrand. Hans van de Groenendaal ZS6AKV, President of AMSAT SA opened the event, while Linden Petzer, Chief Director: Radio & Satellite Communications DTPS, delivered the keynote address, with a presentation entitled “*Current activities in the ITU with respect to small satellites*”.



Linden Petzer discussed the birth of small satellites and how they are applied in the amateur-satellite service, and how these satellites are utilized in a wide variety of missions and applications such as remote sensing, space weather research, astronomy, communications, technology demonstrations, education and commercial applications. Subsequently, although they may operate under various radio-communication services, they are nevertheless registered as “amateur satellites”. The International Telecommunications Union (ITU) has issued two reports relating two small satellites, which are obtainable from their website:

**Report SA2312:** *Characteristics, definitions and spectrum requirements of nano-satellites and pico-satellites, as well as systems composed of such satellites.*

**Report SA 2348:** *Current practice and procedures for notifying space networks currently applicable to nano-satellites and pico-satellites.*

Reports available at: <https://www.itu.int/pub/R-REP-SA/en>

Another publication entitled “*Handbook on Amateur and Amateur-Satellite Services*”, Available at: <https://www.itu.int/pub/R-HDB-52-2014> is another valuable source of information.

Mr Petzer concluded his presentation by stating that a simplified regulatory regime for the co-ordination, notification and recording procedures for frequency assignments pertaining to non-GSO satellites with short duration missions is required. Work is currently underway within the ITU-R Study Groups on the TT&C spectrum requirements for non-GSO satellites with short duration missions.

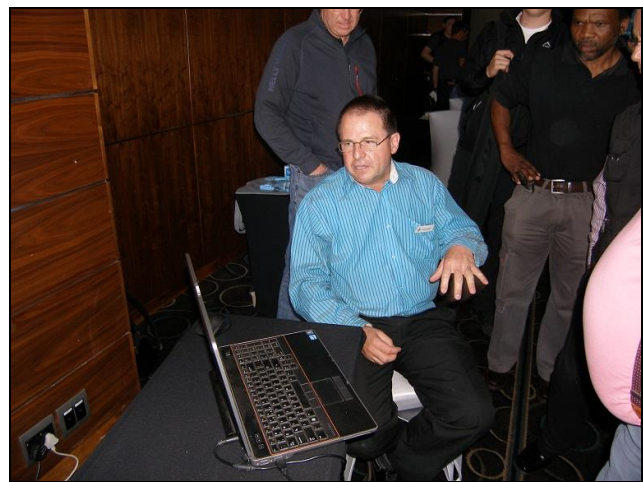


Tom van der Bon ZR6TG (Photo by Anette Jacobs ZR6D)

Tom van der Bon ZR6TG presented two papers entitled: *"The SatNOGS opensource ground station and network"*, and *"Build an educational CubeSat that can be used for experimentation and teaching in the classroom"*. For the first presentation his abstract was as follows: The SatNOGS system is completely opensource and allows you to develop and build on it. All satellite ground station owners also have access to other stations around the world. Using an antenna, SDR and Raspberry Pi you can build your own DIY Satellite Ground Station that can be used to track and decode various telemetry/data from different satellites that pass over South Africa. For the second presentation his abstract was as follows: "CubeSats are becoming very popular as a great space research tool. Unfortunately, education on CubeSats only starts at a university level. We need a tool to promote and teach about CubeSats and create a new generation of space researchers (and enthusiasts of all ages) excited about launching their own CubeSats. For more information please consult: [www.amsatsa.org.za](http://www.amsatsa.org.za) and [www.satnogs.org/](http://www.satnogs.org/)."



Anton Janovsky ZR6AIC presented a talk entitled "Artificial Intelligence to identify satellite signals". During a moment where computer hardware baffled us older men, the young and very helpful Glen Bailey ZR6G came to our rescue a number of times



Hannes Coetzee ZS6BZP presented a talk on Es'hailSat - Amateur Radios first geostationary satellite, and also presented a practical demonstration on how to utilize the satellite. The satellite carries an AMSAT linear transponder as a secondary payload, named Qatar Oscar 100 (QO100), giving over 1.5 million amateurs access for the first time to a geostationary satellite.



Frik Wolf ZS6FZ elaborated on the third generation AMSAT SA space frame, which was a progress from the first-generation frame designed and developed by Deon Coetzee ZR1DX. This 3<sup>rd</sup> generation design includes solar panels and antenna development.



Father and Son Ham Radio team Shane Bailey ZS6W and Glen Bailey ZR6G.



Husband and Wife Ham Radio Team Brian Jacobs ZS7YZ and Anette Jacobs ZR6D. Both Brian and Anette are often heard on the SARL Bulletins and Amateur Radio Today, where Anette conducts the Afrikaans versions of the Bulletin, and Brian conducts VHF and UHF tutorials. Brian presented a talk entitled “*Developing a reverse beacon network*”, which has evolved to become a powerful tool with many Amateur Radio applications, mostly on the HF bands. According to Brian, the RBN concept also provides unique opportunities for real time propagation awareness on VHF and UHF. During his presentation, Brian demonstrated the concept with some practical examples.



Hans van de Groenendaal ZS6AKV and Leon Lessing ZS6LMG presented talks entitled “*Operate Satellite with the AMSAT SA Dual band Yagi*” and “*The versatility of WSPR in Amateur Radio and application for balloon flights*” respectively. Leon’s presentation emphasized the fact that because payloads are so sophisticated on BACAR projects, retrieval of the payload is becoming all the more important.



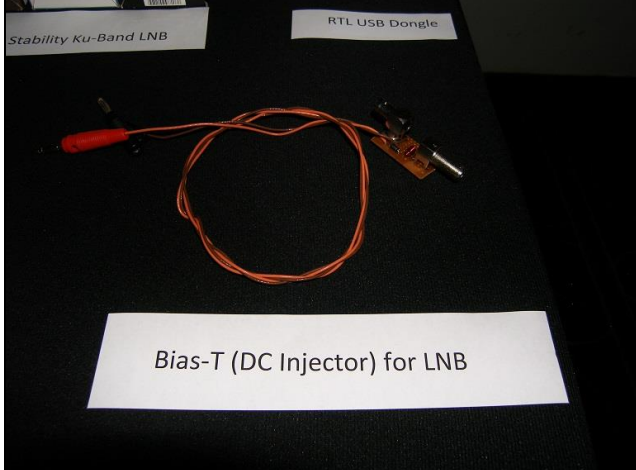
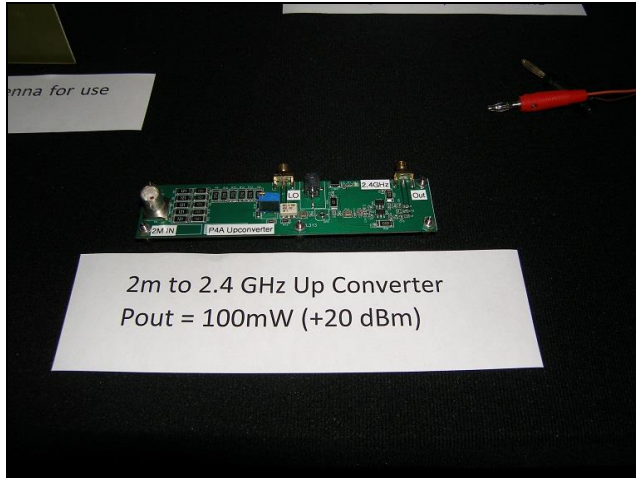
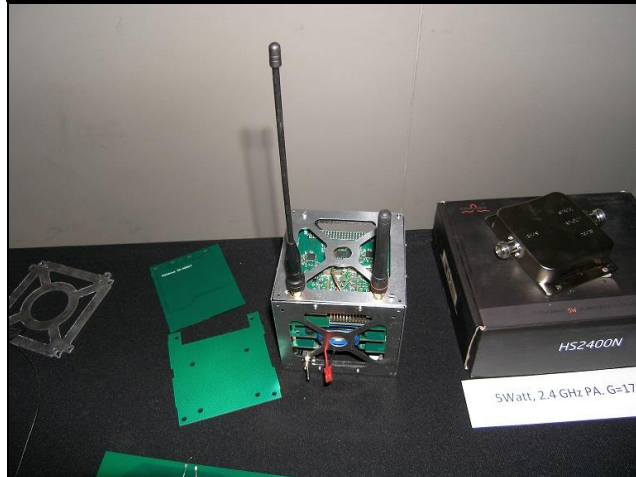
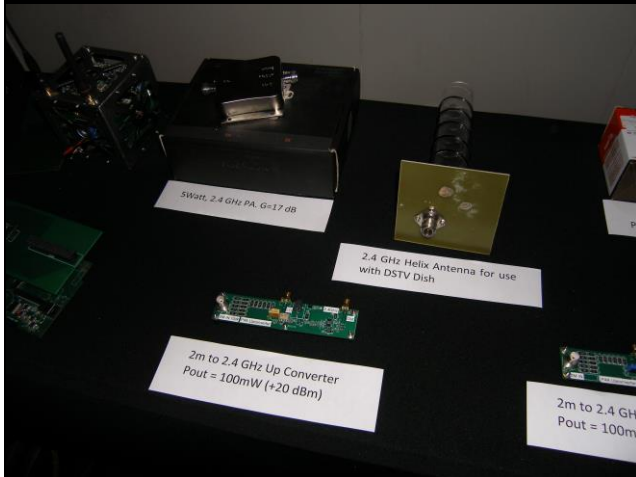
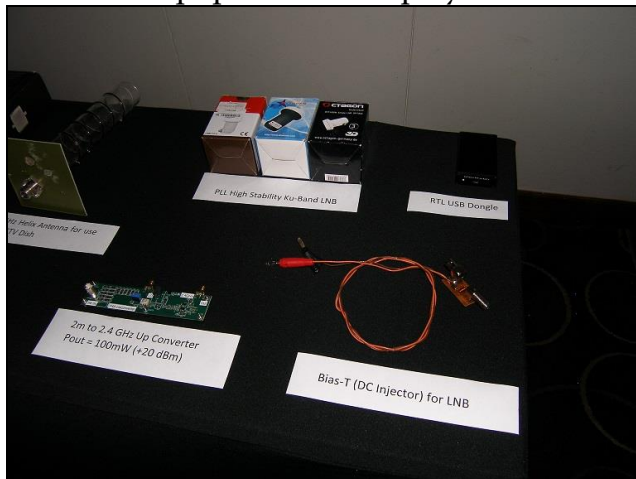
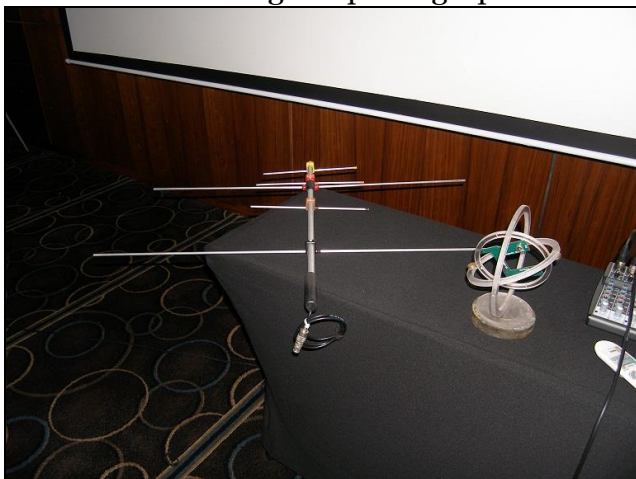
Leanne Cole and Jason Strydom representing Comtest who exhibited at AMSAT SA



The refreshments were top notch quality and gave ample opportunity for networking



A range of photographs below of CubeSat equipment on display



## Tydren Nuus : Johan de Bruyn ZS6JHB



Met die 2019 tydren seisoen wat binnekort afskop, kan ons weer uitsien na 'n besige program. Die Tydren Kalender is voorsien deur Johan de Bruyn, wat tydren aktiwiteite koördineer. Indien u belangstel om deel te wees van tydren radio-diens, kontak gerus vir Johan by 079-333-4107 of [zs6jhb@gmail.com](mailto:zs6jhb@gmail.com). Die voorlopige datums van die Nasionale- en Streekstydrerne word onder aangedui.

With the 2019 rally season commencing soon, we can again look forward to a busy program. The Rally Calendar was provided by Johan de Bruyn, who is the coordinator of rally activities. If you are interested in becoming part of rally radio-service, feel free to contact to contact Johan at 079-333-4107 or [zs6jhb@gmail.com](mailto:zs6jhb@gmail.com). The preliminary dates of the National- and Regional rallies are presented below.

9 March 2019	Regional Event : to be announced
26 April 2019	York Rally Sabie
28 June 2019	PMC Rally
23 August 2019	To be announced
27 September 2019	Secunda Rally
25 October 2019	Electrothread Rally

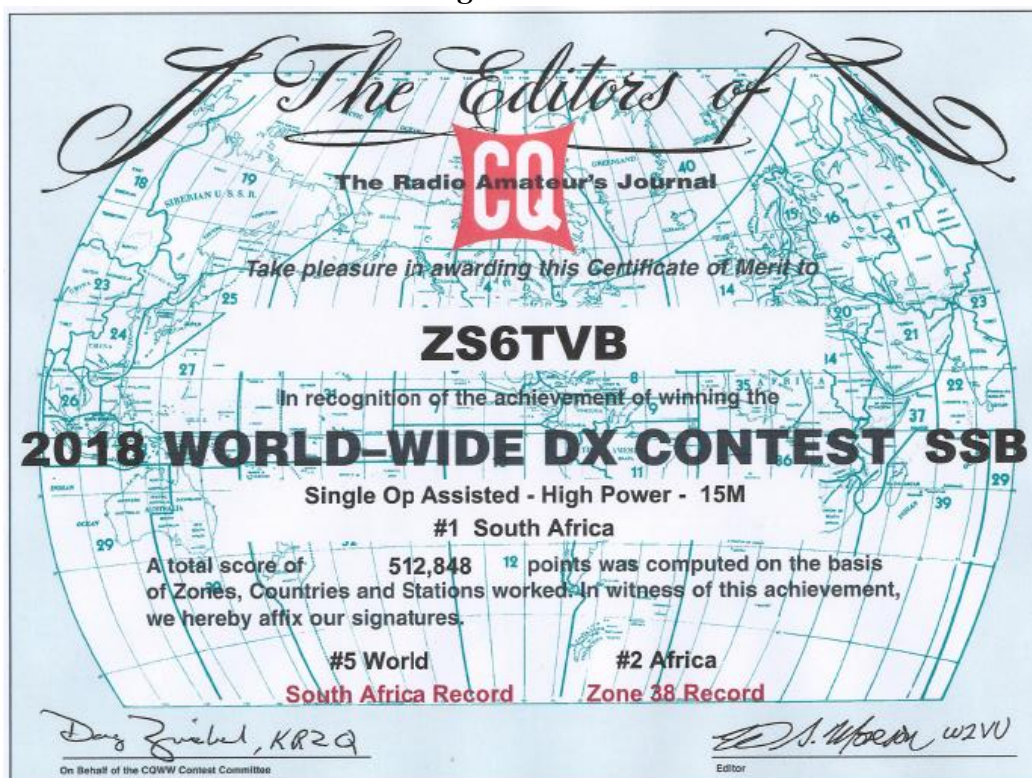


## Theo Bresler ZS6TVB does it again!

In the November 2018 issue of Watts, we published the results of Theo Bresler ZS6TVB for the CQWPX contest, which is probably the second largest annual Radio Amateur contest. Watts reported on the “Long John” antenna he was constructing in preparation for this contest on 27 – 28 October 2018, where approximately 35 000+ contenders compete. It was a 48-hour contest and he fully utilized his Long John antenna for many hours of hard work. Theo recently received the results of this contest, and he achieved 5<sup>th</sup> place worldwide in his category, Single Operator, 15m, High Power. During his previous effort in 2016 (he did not compete in 2017) he achieved 16<sup>th</sup> place worldwide, which is still excellent. In the 2018 contest, Theo achieved No 2 in Africa and No 1 in South Africa with a total score of 512 848. Looking at the certificate below in red: “South African Record” and “Zone 38 Record”, which means that Theo has broken the previous for South Africa and Zone 38. Pretoria Amateur Radio Club hereby sincerely wishes Theo congratulations on his magnificent achievements in Ham Radio contests and thanks him for his contributions towards Amateur Radio and PARC.



Theo Bresler ZS6TVB working contests from his home Radio Shack



## World Amateur Radio Day: 18 April 2019

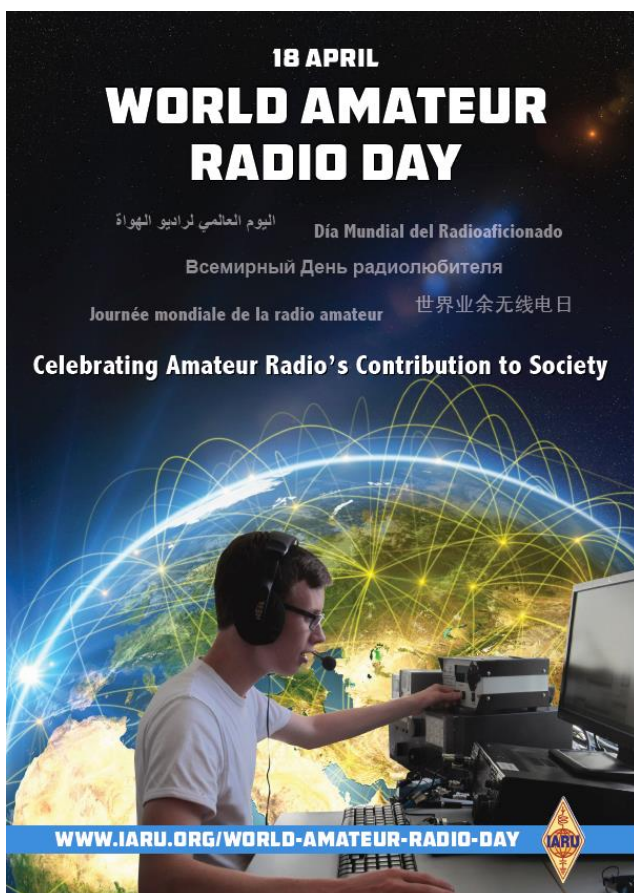
On the 18<sup>th</sup> of April 1925 the International Amateur Radio Union was formed in Paris, hence the annual celebration of this event worldwide.

Amateur Radio experimenters were the first to discover that the short-wave spectrum — far from being a wasteland — could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was “in grave danger of being pushed aside,” the IARU’s history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio worldwide.

Just two years later, at the International Radiotelegraph Conference, Amateur Radio gained the allocations still recognized today — 160, 80, 40, 20, and 10 meters. Since its founding, the IARU has worked tirelessly to defend and expand the frequency allocations for Amateur Radio. Thanks to the support of enlightened administrations in every part of the globe, radio amateurs are now able to experiment and communicate in frequency bands strategically located throughout the radio spectrum. From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions. IARU Region 1 includes Europe, Africa, the Middle East, and Northern Asia. Region 2 covers the Americas, and Region 3 is comprised of Australia, New Zealand, the Pacific island nations, and most of Asia. The International Telecommunication Union (ITU) has recognized the IARU as representing the interests of Amateur Radio.

Today, Amateur Radio is more popular than ever, with more than 3,000,000 licensed operators!

World Amateur Radio Day is the day when IARU Member-Societies can show our capabilities to the public and enjoy global friendship with other Amateurs worldwide. *The text of this article was copied from:* <http://www.iaru.org/world-amateur-radio-day.html>



This poster can be downloaded from the website address shown above for World Amateur Radio Day. Any Club may download it to promote WARD in their area. There are two sizes: 61cm x 91cm and a small (A4) flyer.

## PARK Flea-Market / Snuffelmark

Die Pretoria Amateur Radioklub het sy herfs snuffelmark op die 6de April soos oudergewoonte by die Pretoria ou Motorklub aangebied. Weereens was daar 'n goeie opkoms van plaaslike lede sowel lede van ander Klubs. Graag wil PARK vir Alméro Du Pisani ZS6LDP van harte bedank vir sy voortrefflike reëlings met die dag. Die heerlike worsbroodjies voorberei deur Kenny Martin ZS6KMM en sy gade Paddy en Whitey Joubert ZS6JJJ en sy gade Erna, was soos altyd 'n groot treffer. Baie dankie aan Johan de Bruyn ZS6JHB, Corrie Visser en haar seun Franco vir die heerlike koffie en die hantering van die verkope. Graag wil PARK in besonder vir Vernon Vermeulen ZS6UU bedank vir die ruim skenking van apparaat waarvan die verkope inkomste na PARK gegaan het. Die gewone tafels van Hans ZS6KR (Erelid), Pieter ZS6PVW en Magda ZS6MVW, Alméro DU Pisani ZS6LDP en Linda en Leon Lessing van die Oos-Rand tak was soos altyd vol gepak.



Richard ZS6UK, Pierre ZS6PJH en Fritz ZS6SF



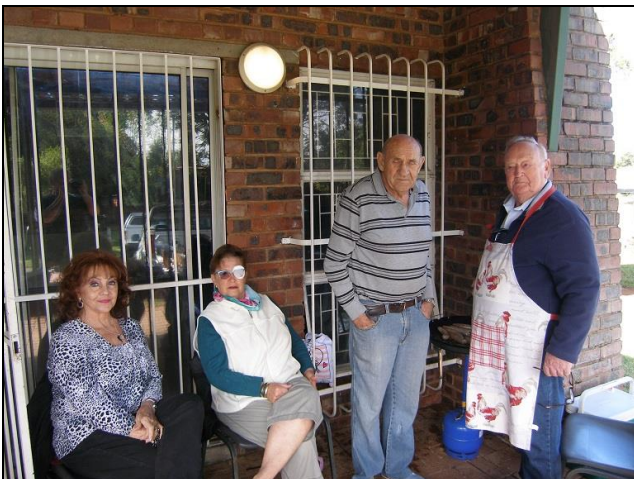
Hans ZS6KR met Pine ZS6OB



Vernon Vermeulen ZS6UU



Pieter ZS6PVW en Magda ZS6MVW van Wyk



Kenny ZS6KMM en Paddy en Whitey ZS6JJJ en Erna



Corrie en Franco Visser het uitgehelp met verkope

It was pleasant to have the Chairman of the Kempton Park Amateur Radio Technical Society, Stephen Stuttard ZS6SKY and his sw Elaine, as well as Tamsanqa Semela ZS6MOZ as our guests. Thank you very much for your support! Hope to see you at our next flea market.



Richard ZS6UK, Hennie Rheeder ZS6ALN and Thobile Koni ZS6TKO



Alméro ZS6LDP veil van die items op



Stephen Stuttard ZS6SKY and spouse Eliane, and Tamsanqa Semela ZS6MOZ from KARTS



Alméro Du Pisani ZS6LDP besig met verkope by sy tafel



JJ Snyders ZS6JSJ en sy gade by sy VHF/UHF veldstasie wat hy in 'n rekenaarkas met sonpaneel ingebou het



JJ Snyders ZS6JSJ wat gereeld betrokke is by PARK se kompetisies het sy draagbare VHF/UHF veld radio saamgebring wat in 'n rekenaarkas ingebou is, en voorsien is van 'n verstelbare sonpaneel en 'n battery aan die binnekant. Die mobiele lugdraad is aan die bokant gemonteer en die kas is helder versier. Dit het JJ ongeveer 3 maande geneem om die konstruksie te voltooi en is werklik 'n meesterstuk. Baie geluk met jou hande werk JJ!

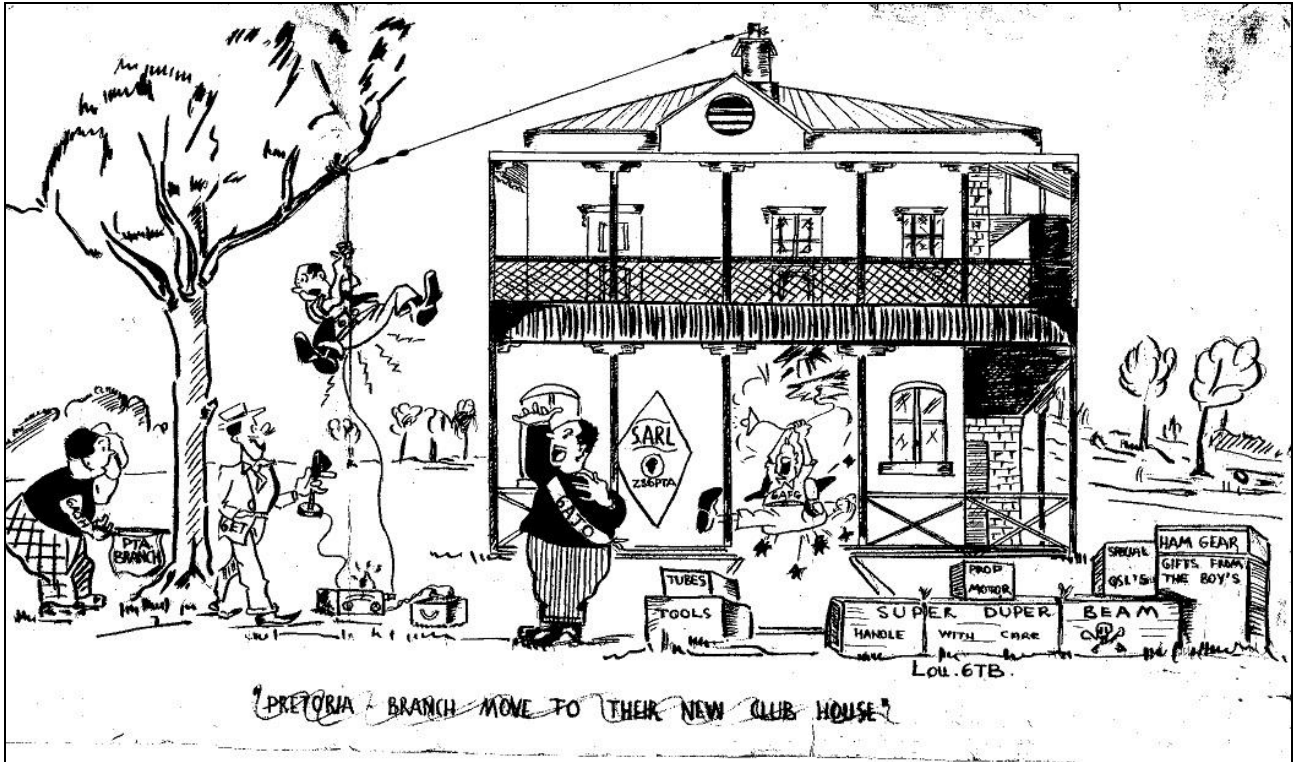
## PARC History

In the following issues of Watts, we will present historical photographs of Club Members and activities. Watts has received a mountain of photographs in electronic format from Hans Kappetijn ZS6KR (Honorary Member) and we sincerely thank him for his great contribution. We would like to encourage anyone who has historical material available to contact the Editor of Watts (Louis de Wet ZS6SK : [louis.zs6sk@gmail.com](mailto:louis.zs6sk@gmail.com)) as we would like to compile a Commemorative Album for the 90<sup>th</sup> celebration of PARC. Please enjoy a selection of early photographs supplied by Hans.

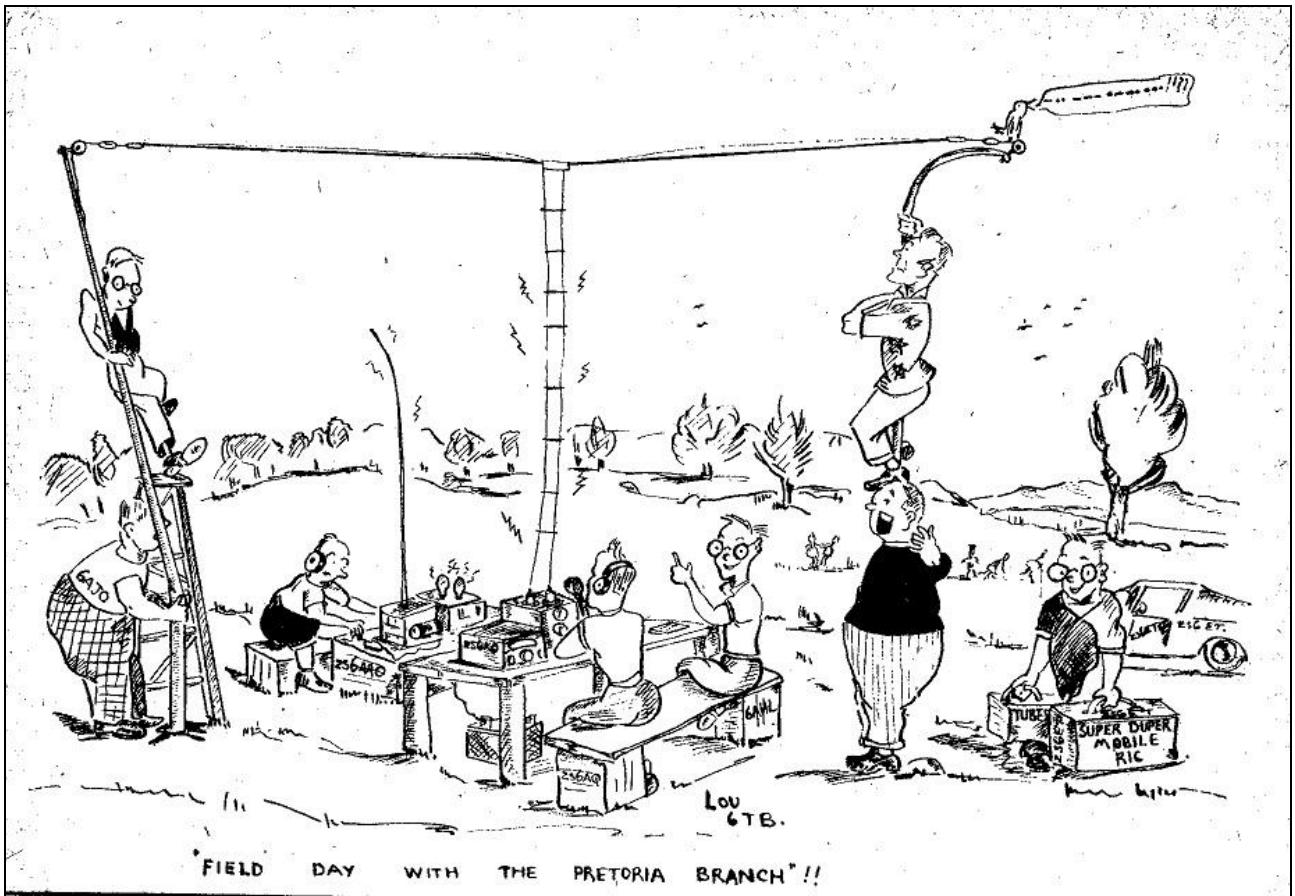
May, 1948



OM's Mike Smuts, 6GO, and Boet Kok, 6LO, have the RF under control during the 125-mile air race staged by the Pretoria Light Plane Club on the 11th April.



Pretoria Clubhouse Cartoon: 1959



Pretoria Field Day Cartoon: 1959



**Long Term HF Propagation for April 2019: Courtesy Vincent Harrison ZS6BTY**

The graph below shows the predicted F-layer Maximum Usable Frequency (MUF) for propagation from Pretoria<sup>[1]</sup> using monthly sunspot numbers from SILSO<sup>[2]</sup>.

**Local Propagation (up to 500 km):** The F or F2 critical frequency ( $f_oF_2$ ) is the MUF for short range, near vertical incidence sky-wave (NVIS) propagation.

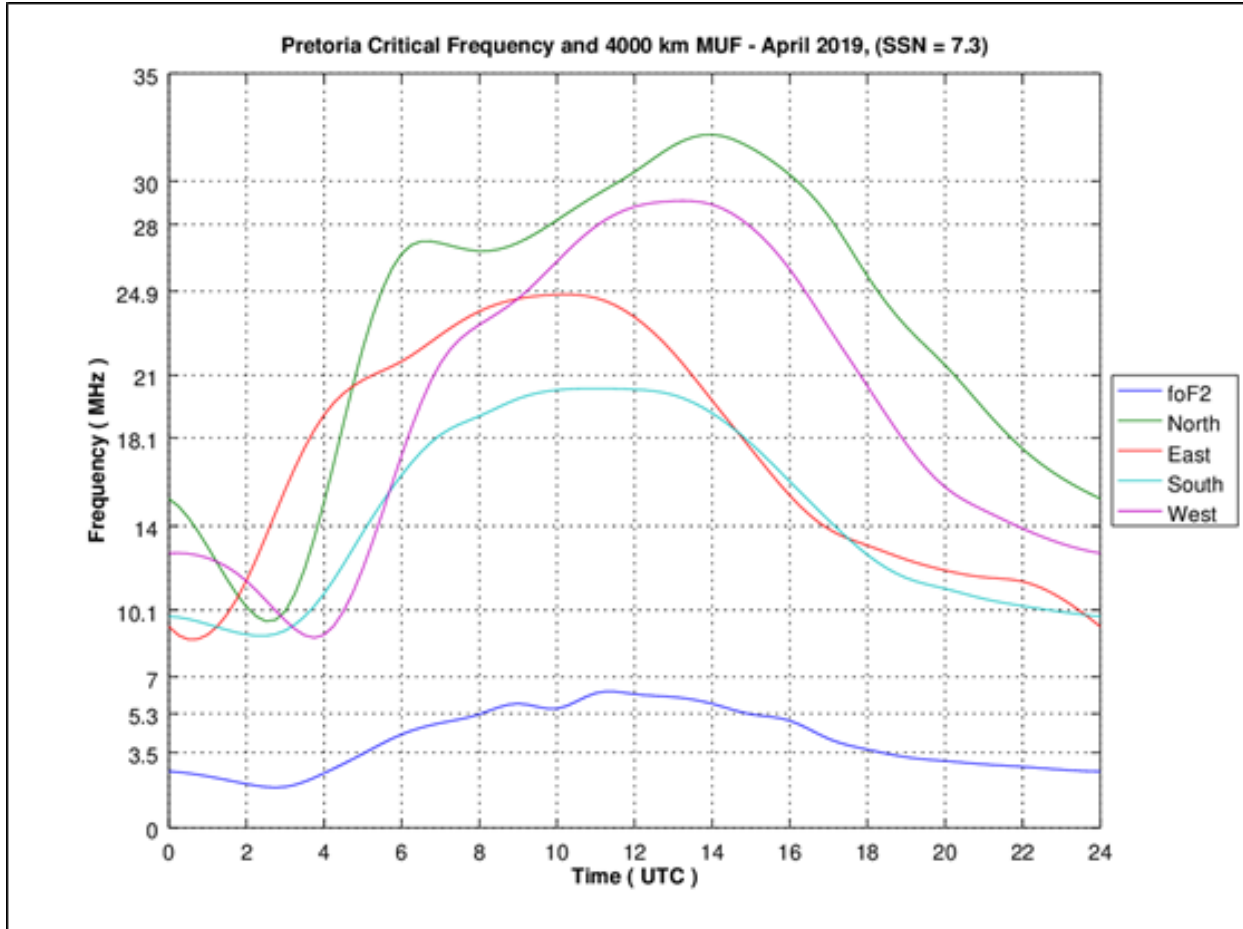
**Long Distance Propagation:** The MUF for a first hop of 4000 km in the cardinal directions is labeled North, East, South and West. They indicate the direction that propagation may be expected.

**Worldwide Propagation Maps:** <http://www.parc.org.za/index.php?page=propagation>

"Prediction is difficult, especially when dealing with the future". . . Danish Proverb. 73 Vincent, ZS6BTY

<sup>[1]</sup>FTZMUF2: A simple method of estimating the ionospheric parameters of  $f_oF_2$  and M(3000) with the aid of a home computer - Thomas Damboldt and Peter Süßmann, Deutsche Bundespost, December 1988.

<sup>[2]</sup> Silso 12-month forecasts of the monthly sunspot number ( <http://sidc.oma.be/silso/FORECASTS/prediML.txt>)



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

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