

*June – July 2018*



Dave ZS2DH with a participant at the Bisho Hammies Boot Camp.  
Find the full story on page 6.

This Newsletter is published by the Port Elizabeth Amateur Radio Society  
P.O. Box 10402, LINTON GRANGE, 6015

Editing by Eric ZS2ECH

**QSX-PE - Newsletter for the discerning Radio Ham**

Download QSX-PE from [www.zs2pe.co.za/Newsletter/Newsletter.htm](http://www.zs2pe.co.za/Newsletter/Newsletter.htm)  
or [www.commco.co.za/pears.htm](http://www.commco.co.za/pears.htm)

# PEARS Monthly Meeting

7:30 pm at the Italian Sporting Club, 17 Harold Road, Charlo.

**Tuesday 19<sup>th</sup> of June 2018**

**SAPS Call Centre tour, ZS2JR/ZS2GS (see map page 3)**

**Tuesday 17<sup>th</sup> of July 2018**

**T.B.A.**

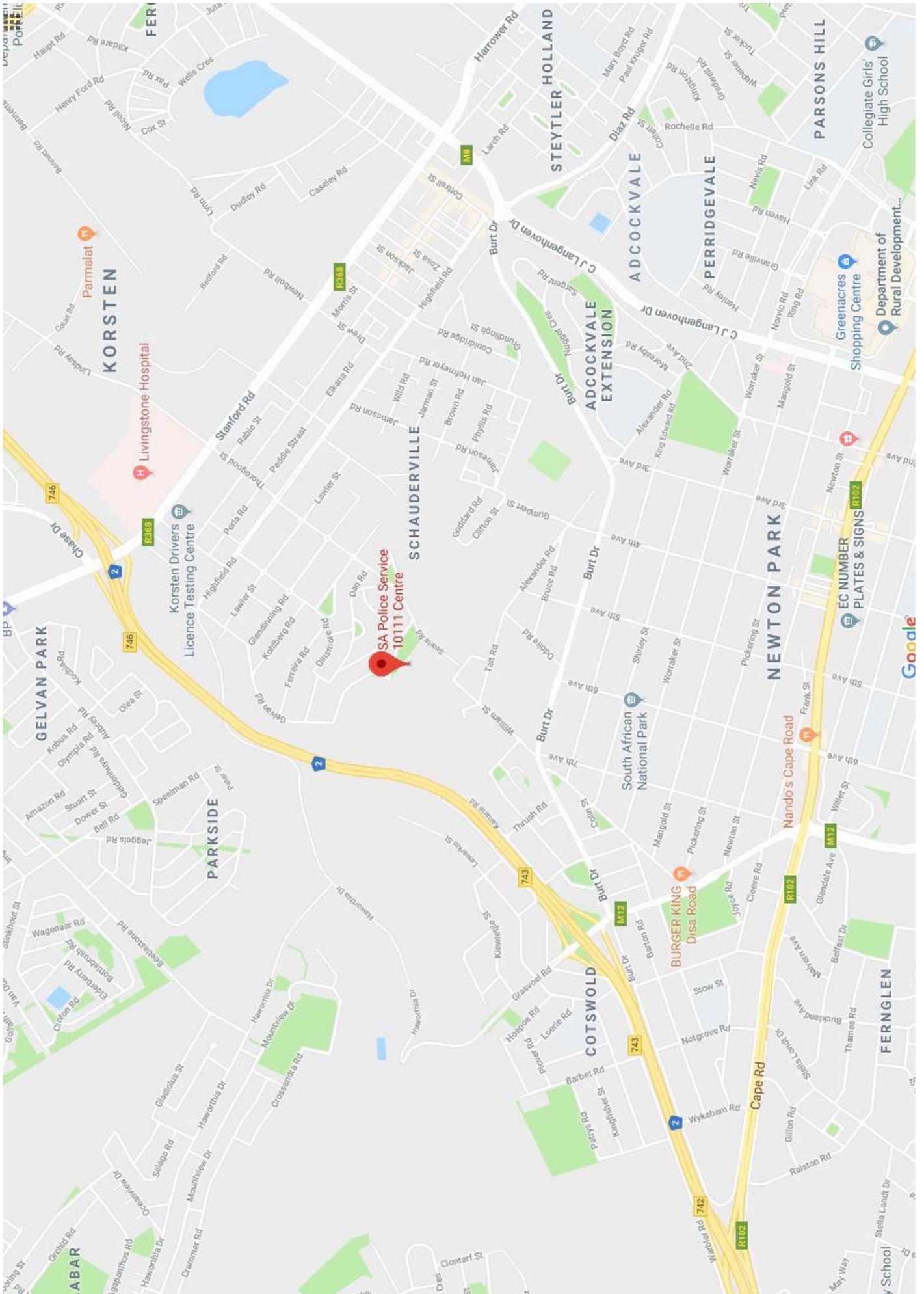
**Friday 27<sup>th</sup> of July 2018, 18h00 for 18h30**

**Pizza social at the Italian Sporting Club**

## DIARY OF EVENTS

10 June	Hammies Sprint
17 June	World QRP Day
19 June	PEARS monthly meeting at SAPS Call Centre
21 - 25 June	SARL Top Band QSO Party
26 June	HAMNET simplex VHF net 145.500 MHz at 8 pm
1 July	ZS5 Sprint
7 July	SARL Newbie Party
6 - 7 July	VW Rally
14 July	RadAR Challenge
14 - 15 July	IARU HF Championships and WRTC 2018
17 July	PEARS monthly meeting at the Italian Club
21 July	SARL QRP Winter Contest
22 July	ZS2 Sprint
24 July	HAMNET simplex VHF net 145.500 MHz at 8 pm
27 July	PEARS Pizza evening
1 August	October RAE classes start
11 - 12 August	Trans Bavians - First Weekend
18 - 19 August	Trans Bavians - Second Weekend
18 - 19 August	International Lighthouse and Lightship Weekend
1 - 2 Sept	Ironman 70.3 World Champs
20 - 21 Oct	JOTA
25 Nov	5150 Triathlon

**On 13 May 2018 the key of Mike Bosch ZS2FM became silent. To all family and friends we extend our sincerest condolences.**



# MEMBERSHIP FEE RENEWAL

**PEARS membership fees are now due:**

Ordinary members: R150 p.a.

Couples: R200 p.a.

Pensioners: R 100 p.a.

Pensioners couples: R150 p.a.

Scholars & students: R50 p.a.

WIFI fees: R150 p.m.

Please note that all payments for membership fees or wifi fees that are made direct into the clubs bank account require a reference. This is usually your callsign, or if you do not have one, your name should be used. This helps me to identify who is making the payment.

Banking details (for subs & donations):

NEDBANK SAVINGS ACCOUNT No. 221 252 7594

Bank code 121217

A/C name: Port Elizabeth Amateur Radio Society.

**Please use call signs (or name) as a reference.**

## Radio Amateur's Exam – 19 May 2018 Examination Results

Congratulations to the flowing new Hams that passed the last RAE:

<b>Aldrin Baker</b>	<b>ZS2AGB</b>
<b>Bernice de Lange</b>	<b>ZS2BD</b>
<b>Lance Henegan</b>	<b>ZS2LB</b>
<b>Patricia Greig</b>	<b>ZS2PAG</b>
<b>Paul Schoeman</b>	<b>ZS2PS</b>
<b>Shaun Gilbert</b>	<b>ZS2SG</b>
<b>Zack Botes</b>	<b>ZS2ZB</b>

Also many thanks to Donovan for all his hard work giving the classes, however it's time to start punting the next one...

Classes for the RAE in October start on 1 August 2018.

Interested persons please contact Donovan on [zs2dl@hamradio.co.za](mailto:zs2dl@hamradio.co.za) or 0828524885.

They will then be put on a list and will receive the official invite (Info PDF).

# ICASA NEW AUTOMATIC LICENCING SYSTEM SOON

SARL President, Nico van Rensburg, ZS6QL and SARL Regulatory Affairs Manager, Hans van de Groenendaal, ZS6AKV met with the ICASA CEO Willington Ngwepe and some of his senior staff to discuss several long outstanding issues that could not be resolved by the liaison committee. Ngwepe told the SARL that ICASA was currently piloting a new spectrum management system which will solve the current disconnect between licenses and payments creating the impression that licenses have been cancelled. The SARL was assured that call signs were not cancelled on the system, although the SARL database may show licenses cancelled. ICASA will supply the SARL with a full database where call signs that have a payment dispute will be identified by an asterisk. The SARL will implement the revised database in the SARL callbook early next month.

Once the new ICASA system is released later this year, applications, address changes, payments and renewals will be done on-line. The problem with commission being charged for payments made at the Post Office will be corrected. If you received an outstanding account for R12.50, please ignore this as ICASA will credit your account. For any current license payment queries, please send an e-mail to Dewald at [dkuhrau@icasa.org.za](mailto:dkuhrau@icasa.org.za) with a copy of the EFT payment and call sign.

The CEO also agreed to revisit the SARL application for special call signs for amateurs who participate in international contests. He also confirmed that the dispute with DTPS and ICASA has been resolved and that the new radio frequency spectrum plan will be gazetted soon. Other regulatory issues that have been on the liaison committee agenda for some time will be referred to the various departments for speedy resolution. "I believe that our meeting was fruitful for both ICASA and the SARL", Nico van Rensburg said. "It gave us the opportunity to discuss how the SARL operates, the benefits that Hamnet delivers to the country and the technology such as propagation research, investigation into the rising RF noise floor and satellite technology that radio amateurs and the amateur service are involved with."

#####

A fish tail weighs 9 kilograms.  
The head weighs the same as the tail plus half the body.  
The body weighs the same as the head and the tail.  
What does the fish weigh?

# Hammies Boot Camp – Bisho

I was privileged to have my two sons assist me with a Hammies Boot Camp in the Bisho area of the Eastern Cape. What made this course special for me was that my old friend and Scouting colleague, Lunga Nqini had asked me to run it for his Church/Scout group. The course was planned for April 27-May 1 but ended a day earlier than anticipated.

17 eager kids awaited our arrival and one very loaded Nissan Sentra arrived early Friday morning. Things soon got underway and classes began. Really interesting questions from some of the kids.

One of my favourites: If we not allowed to use bad language on the radio, but we are allowed to play music – what if we play music with bad language? A nice short answer to a Scout/Church kid: If you have music like that you listening to the wrong kind on music.

Friday we did a LOT of theory, Saturday was a lot more fun with practical activities and Sunday was the day for the HF tests. What a day!

I received a call to return to the saltmine on the Monday – the day the written exam was due. This meant we needed to close up a day earlier than anticipated. Sunday turned into a day full of tests for the kids – each going through their HF test and then the group finally writing the written paper at 15:30. By 17:00 Sunday we were on the way home again. Roadworks, SunSet and idiot drivers together – but we made it home safely!

A new ruling from the SARL RAE committee is that 5 QSOs are now needed for the practical test. Fortunately we had started the mammoth task of  $17 \times 5 = 85$  QSOs Saturday afternoon! It was a long haul that I'd have to say.

Upon reflection, one thing that amazed me was that almost all of the kids were scared of the battery! I had to show them several times that you could touch the terminals – mentioning each time that you could not touch them together! Yet each one, while practicing to set up the station was overly cautious when working with the battery. At first I wanted them to relax, but I think a healthy dose of care is probably a good idea.

Another thing that jumped out at me was that the language barrier was not nearly as bad as it used to be. That said, when you get a little 9 year old Xhosa girl who can't read (or as we used to say – sound it) Electromagnetic radiation, you have to ask how many 9 year olds could anyway ☹️

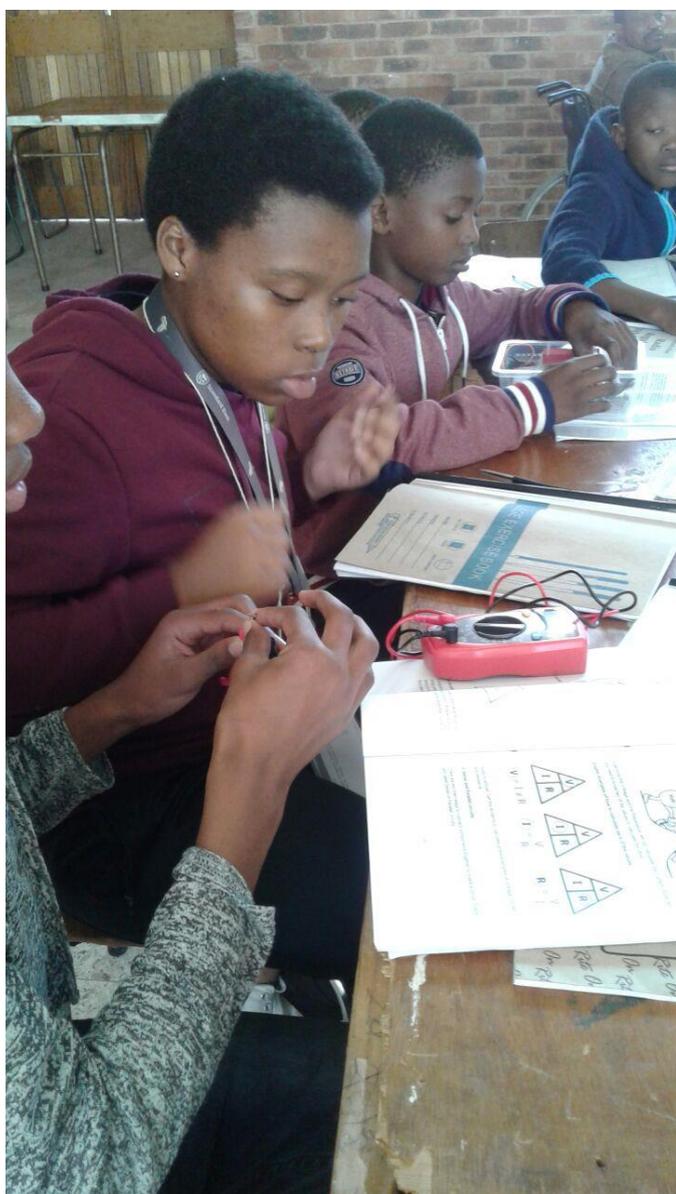
A number of priceless moments stick out for me, but probably my favourite is getting a signal report as “a beautiful, loving 5/9”. A close second came from Enkosi – our top scorer – who when I asked her doing one of our QSOs whether she was having fun replied that she

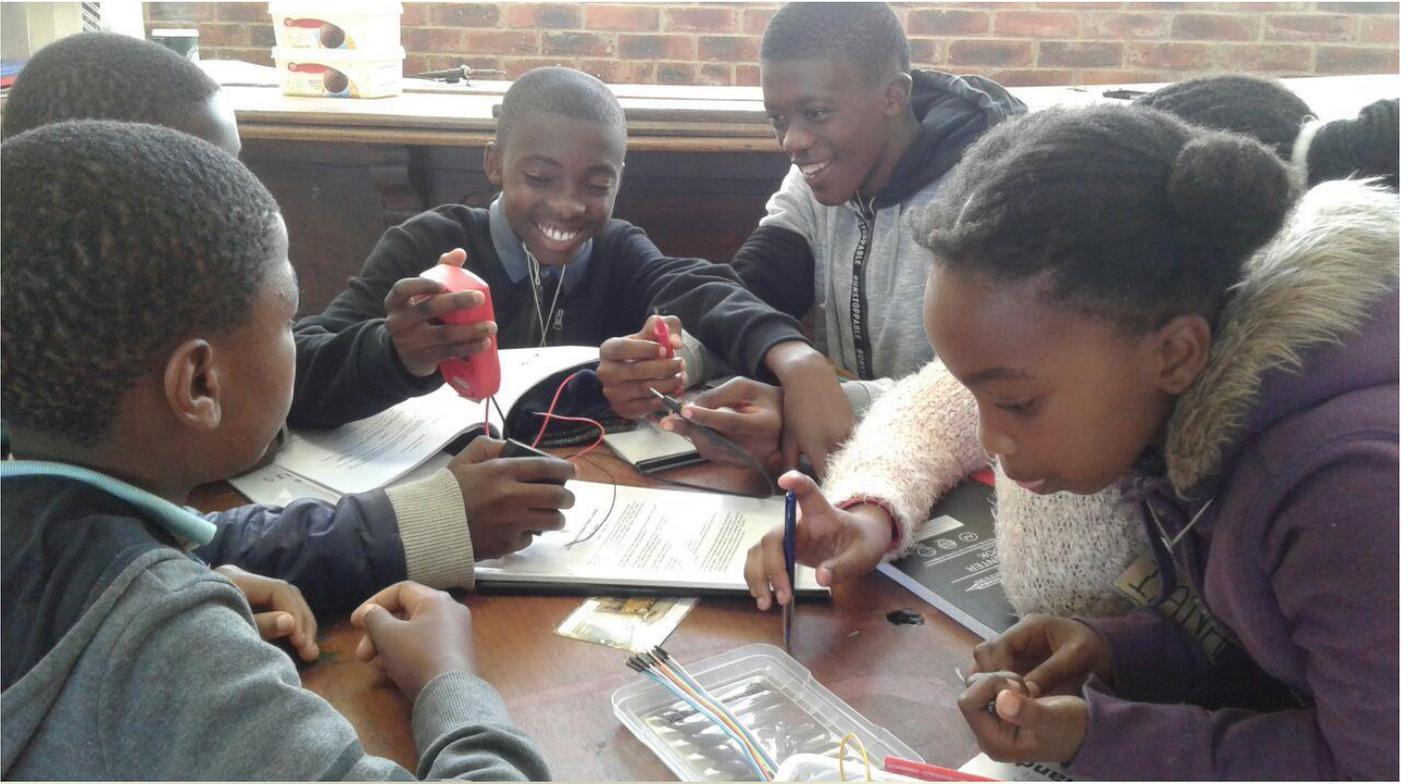
was having an absolute BLAST. Enthusiasm you don't often hear on the radio – and that with perfect protocol. Sommer net lekker!

*From SARL news bulletin:*

Congratulations go to Dave Higgs, ZS2DH and his team who ran a special RAE boot camp which saw 17 youngsters from a rural community write the Class-B RAE on 30 April. These youngsters are from the Bhisho Scout Group and were encouraged by their Troop Scouter Lunga Nqini, to become radio amateurs.

This group was sponsored by the local community church but will need further sponsorships/donations to continue with their amateur radio activities. The ZS2ZU and ZS6ZU Hammies clubs have each sponsored a VHF radio for this group. We are appealing to the amateur community for further donations. If you are willing to help, please contact Dave Higgs at [om@zs2dh.co.za](mailto:om@zs2dh.co.za) or Noel Hammond at [zr6dx@iafrica.com](mailto:zr6dx@iafrica.com)





For more photos see:  
<http://zs2dh.co.za/hammies-boot-camp-2018-photos/>

## SHORT RANGE VHF ANTENNAS - PART 2

By Al Akers – ZS2U

Calculations of vertical angles from a reference station to various stations in the area, including repeaters will show that most of the time the vertical angle of radiation will be somewhere between two degrees above horizontal to two degrees below horizontal. So aim for horizontal radiation. Connecting a feedline to an antenna to minimize antenna currents on it can be quite difficult, especially vertical antennas. Such currents make it difficult to match to the transceiver, distorts the antenna radiation pattern and causes RF in the shack. The feedline for the ground-plane antenna runs straight down, well outside the antenna radiation field. For gain purposes the half wave dipole is used as a reference antenna. A vertical dipole will have an omnidirectional horizontal pattern and vertically will be maximum at right angles to the antenna, dropping down to zero in line with the antenna. This makes it ideal for short range operation too and being a half wave will be slightly better than a quarter wave ground-plane. Feeding this antenna at the bottom is somewhat more difficult as the impedance here is several thousand ohms.

#####

In a street: 5 houses in five different colours.

In each house a person of different nationality.

Each of the 5 different owners drinks a different beverage, smokes a different brand and owns a different pet.

Not one is the same nationality, colour of house, beverage, cigarette or pet.

QUESTION: Who owns the fish?

CLUES:

- 1 The Brit lives in the red house.
- 2 The Swede owns the dog.
- 3 The Dane drinks tea.
- 4 The green house is on the left hand side of the white house.
- 5 The owner of the green house drinks coffee.
- 6 The smoker of Pall Mall has birds.
- 7 The owner of the house in the middle drinks milk.
- 8 The Norwegian lives in the first house.
- 9 The Chesterfield smoker lives next to the cat owner.
- 10 The horse owner lives next to the Dunhill smoker.
- 11 The man that smokes Royals drinks beer.
- 12 The German smokes Camel.
- 13 The Norwegian lives next to the blue house
- 14 The Chesterfield smoker has a neighbour who drinks water.
- 15 The owner of the yellow house smokes Dunhill.

# ZS2 Sprint Sunday 22 July 2018

## 1. Aim

This is a fun activity to promote contacts between radio amateurs in the Eastern Cape and radio amateurs in Southern African countries.

## 2. Date and Time

14:00 to 15:00 UTC Sunday 22 July 2018.

## 3. Exchange

The exchange is RS(T) and provincial or country abbreviation.

## 4. Frequency

4.1 It is a phone and CW contest on the 40-metre band

4.2 CW: 7 000 to 7 040 kHz

4.3 SSB: 7 063 to 7 100 and 7 130 to 7 200 kHz

## 5. Scoring

### 5.1 ZS2 stations

5.1.1 Contacts with stations in ZS2 are worth 1 point.

5.1.2 Contacts with stations in other ZS call areas or Southern African countries are worth 2 points.

### 5.2 Other stations

5.2.1 Contacts with stations in ZS2 are worth 2 points.

5.2.2 Contacts with stations in own or other ZS call areas (excluding ZS2) or Southern African countries are worth 1 point.

5.3 Contacts with the Port Elizabeth Amateur Radio Society, ZS2PE, or the Border Radio Club, ZS2BRC, are worth 5 points each. Only one contact per station is allowed.

## 6. Log Sheets

Logs, in ADIF, Cabrillo or MS Excel format and labelled "your call sign ZS2 Sprint," shall be submitted by 29 July 2018 and sent by e-mail to [zs2ec01@gmail.com](mailto:zs2ec01@gmail.com)

## 7. Awards

7.1 Certificates will be awarded to the 1st 2nd and 3rd place.

7.2 This will only happen if more than five logs are submitted.

# Thousands of Amateur Radio Operators Measured the 2017 Solar Eclipse's Effects on the Atmosphere

Ryan F. Mandelbaum



Astronomers and space fans may have set up lawn chairs outside to watch the eclipse, but Nathaniel Frissell set up his ham radio. As the sky dimmed and daylight turned into an uncanny dusk, the reports started coming in: Communication was dying off over the 20 meter (14 MHz) radio band.

Frissell (call sign W2NAF) was one of thousands of hams who set up their radios on the day of the solar eclipse in an effort to measure its effects on the upper atmosphere. They've just released the results of their investigation, which found that the solar eclipse thinned the charged particle-containing part of the upper atmosphere, called the ionosphere.

"It's been a really amazing thing to see the entire ham radio community come together and see this through," said Frissell, a professor at the New Jersey Institute of Technology Center for Solar-Terrestrial Research who organized the event. "We have been able to take this really rough piece of physics and science data that wasn't designed for this in the first place and show the eclipse effects in a very clear manner."

Amateur, or ham, radio operators are folks who set up radio communications and send messages to one another as a hobby. They communicate over specially designated FCC radio bands. Occasionally, organizations will host "QSO parties," where hams try and establish contact with as many other radio operators as they can.

Ham radio operators bounce signals off the ionosphere to send messages over long distances, so they're interested in how space weather, like solar flares, or eclipses change how their messages travel. HamSCI, a group that promotes and performs citizen science research by amateur radio operators, organized a QSO party during the eclipse. The HamSCI

researchers monitored the contacts the hams made through a number of communications observation networks.

In doing so, HamSCI created one of the largest datasets ever produced by a citizen science ham radio experiment, according to the paper published recently in Geophysical Research Letters. There were over 30,000 contacts made during the QSO party, said Frissell.

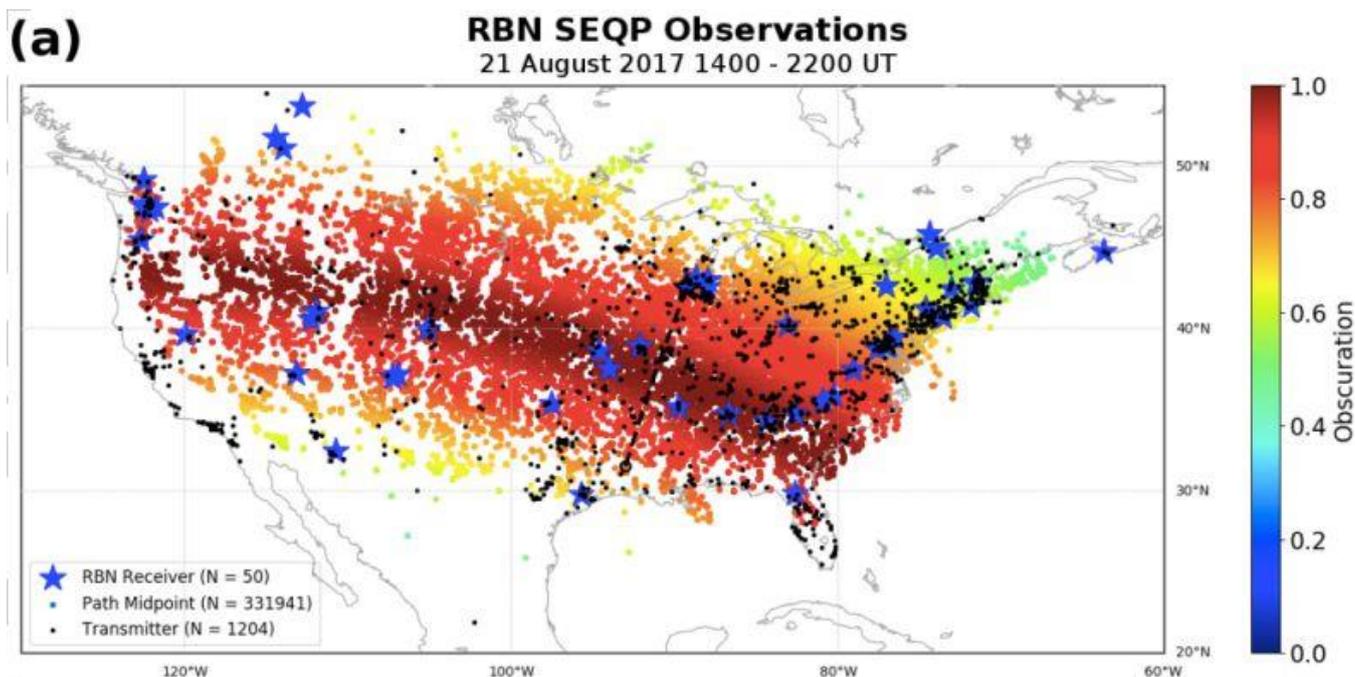
The data revealed the eclipse thinning the ionosphere. Contacts couldn't successfully be made over the long-distance 14MHz, or "20 meter" band during the hour before and after totality—messages went straight into space rather than bouncing back to Earth. Other bands saw an increase in the distance over which contacts could be made; a layer of the ionosphere that is stronger during the day than at night seemed to have weakened during the eclipse, so it didn't absorb signals as it normally would have. This allowed some signals to travel further before bouncing back to Earth.

The measurements confirmed previous studies; we've previously reported on other experiments that found the solar eclipse created a "wake" in the ionosphere. Others have measured eclipses' effects on ham radio, but this is the largest citizen science experiment to do so.

There's more to learn from eclipses, and perhaps more to pull out of this very data set, said Frissell. And there's even more science to be done—HamSCI is hoping to research how solar flares impact the ionosphere, and aims to build personal space weather stations.

But all-in-all, it's been rewarding. "It was fantastic," said Frissell.

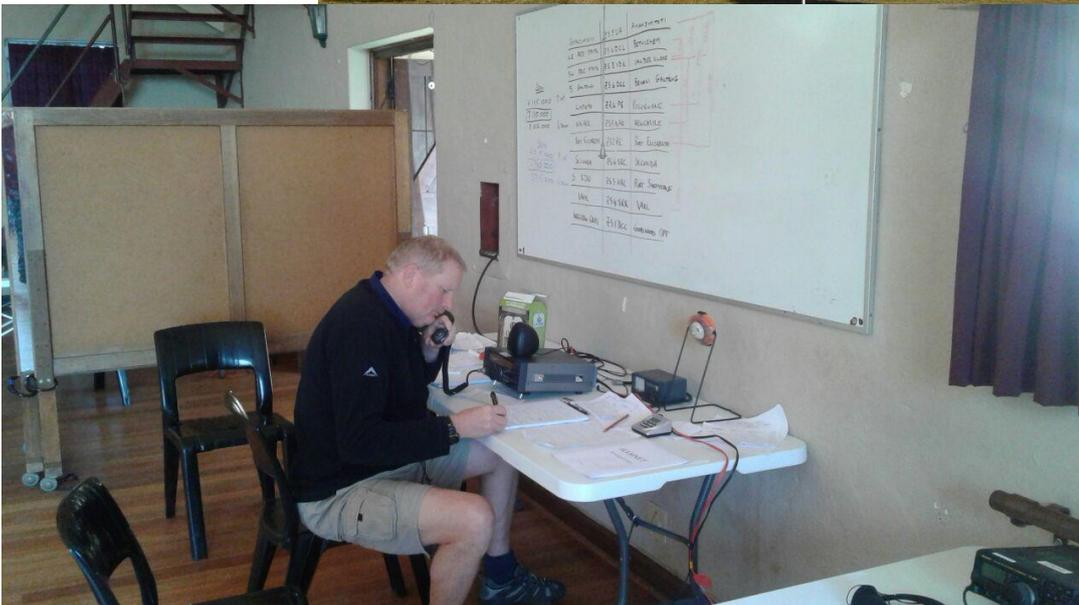
Copied from: <https://gizmodo.com/thousands-of-amateur-radio-operators-measured-the-solar-1826147318>



# Blackout weekend photos, 4 - 6 May 2018



Jimmy ZS2JIM,  
Andrew ZS2G,  
Theunis ZS2EC and  
Colin ZR2CRS at the  
Walmer Scout Hall.



# PEARS AGM photos, 19 May 2018



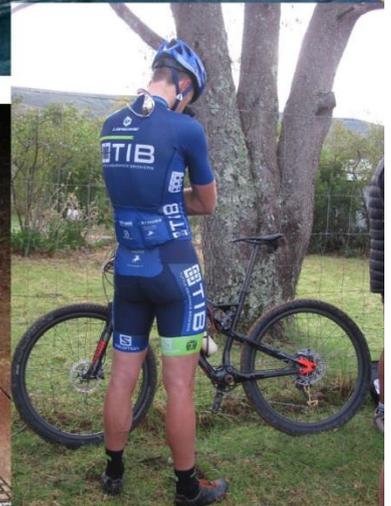
The AGM was held at the Italian Sporting Club.

Juanita ZS2JBK and Gert ZS2GS listening to Rassie ZS1YT.



Jack Twine Merit Award recipients Tony ZR2TX, Gert ZS2GS, Dave ZS2DH with Rassie ZS1YT (absent Andrew ZS2G).

# Great Zuurberg Trek photos, May 2018



# What Happened To The Half Wave Dipole Fed With Coax?

I am an “old timer” licensed in the 1960's, and I probably think like one. Back then “store bought” antennas were usually the exception rather than the rule, especially on bands below 20 meters. When I read posts from HAMS asking why their G5RV does not work as expected, or how (and why) to install a radial system under a vertical, or why an inverted L does not work well, or what kind of “tuner” is needed to match a long wire, or why their OCF antenna has a high SWR, or how to feed a Super Duper Sky Buster, etc, I start to wonder.

When I read statements on this site and other sites about performance characteristics and claims made by some manufacturers of commercially produced HF antennas costing hundreds of dollars and the associated questions asked by HAMS who try to use them, I cannot help but think back to the good old days and wonder, “What ever happened to the half wavelength dipole (or the inverted V) fed with good quality 50 ohm coax?”

There are many reasons to use a half wave dipole on all bands, but especially on bands below 20 meters. Just a few reasons are listed below. I am sure there are many more.

- A half wave dipole presents a very good impedance match for modern solid state transceivers.
- A half wave dipole has a good operating bandwidth with respect to frequency.
- A half wave dipole does not require an antenna “tuner” to work efficiently.
- A half wave dipole does not require a radial system to work efficiently.
- A half wave dipole does not require a balun to work efficiently.
- A half wave dipole (properly measured and cut) does not require an “antenna analyzer” to get it working.
- A half wave dipole does not require computer modeling software to get it designed and working.
- A half wave dipole is relatively quiet on receive.
- A half wave dipole can be built from scratch by the average HAM in half an hour or less.
- A half wave dipole can be built from brand new components for much less than the cost of a typical commercial antenna.
- A half wave dipole can be built (in a pinch) from scrap material, costing absolutely nothing.
- A half wave dipole at typical height (especially below 20 meters) does not really “care” what direction it runs.
- A half wave dipole cut for 40 meters will also work on 15 meters.
- A half wave dipole cut for the upper end of 75 meters will also work on the lower end of 10 meters.
- A half wave dipole, properly constructed and installed, will have little or no change in performance or SWR in the rain.
- The legs of a half wave dipole can be (within reason) zigged and zagged to fit within the confines of a small lot without much (if any) noticeable loss in performance.
- A half wave dipole is easily supported by trees or a simple pole and some nylon twine.
- A half wave dipole will perform in the real world as well or better than most any single element commercially produced antenna, regardless of cost.
- The more things change, the more they stay the same.

73 Dick AD4U

Copied from: <https://www.eham.net/articles/19877>

# CONGRATULATIONS

## BIRTHDAYS – June

- 02 Vanessa XYL of Glen Cummings ZS2GV
- 03 Tim Joubert ZS2X
- 09 Andre Le Roux ZS2AL
- 09 Gus Winter ZS2MC
- 16 Ian Moore ZS2IJ
- 19 Neville Bowden ZS2N
- 19 Quintus Moolman ZS2KU
- 23 Beverley XYL of David Higgs ZS2DH
- 25 Terry Flanagan ZS2ABB
- 29 Vaughan Rizzo ZS2VR
- 30 Barbara XYL of Jimmy De Scande ZS2JIM
- 30 John Ashworth ZS2GB

## ANNIVERSARIES – June

- 09 Tony ZS2T and Sharon Dove
- 10 Andre ZS2AL and Lilian Le Roux
- 16 Viv ZS2VM and Peggy Moore
- 25 Gert ZS2GHK and Erika Kok
- 26 Rob ZS2ROB and Rosemary ZR2MCR  
Mac Geoghegan

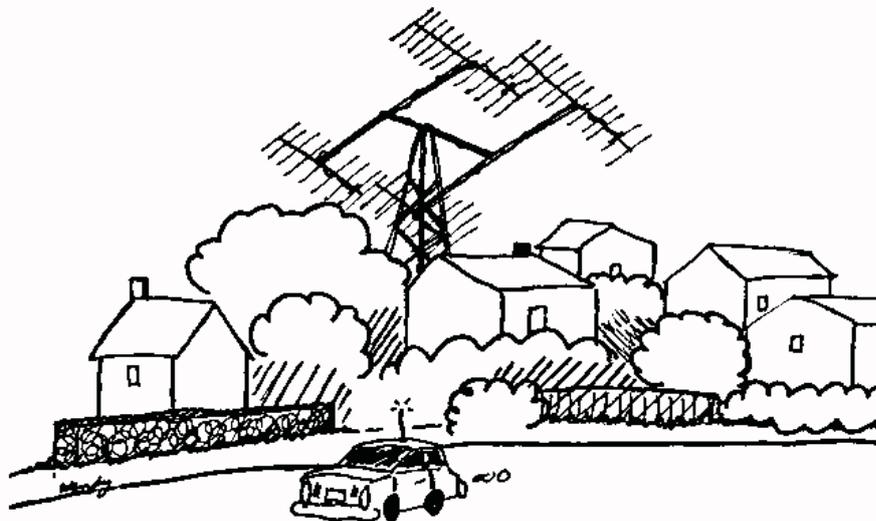
## BIRTHDAYS – July

- 05 Nico Oelofse ZS4N
- 06 George Whitehead ZS2GO
- 07 Aldrin Baker ZS2AGB
- 08 Ronel XYL of Basie Du Plessis ZR2BA
- 10 Mitch Rundle ZS2DK
- 11 Gert Schoeman ZS2GS
- 11 Marius Rautenbach ZS2JR
- 12 Sandra XYL of Neville Bowden ZS2N
- 13 Cyril Hislop ZS2EJ
- 14 Alex Gogos ZR2T
- 16 Hendrina XYL of George Pearson ZS2E
- 22 Beavan Gwilt ZS2RL
- 25 David Higgs ZS2DH
- 28 Yacov Loock ZS2YCL
- 29 Jacqui XYL of Peter Ryder ZS2PR

## ANNIVERSARIES – July

- 01 Gerrit ZS2XD and Laetitia Rautenbach
- 07 Barry ZS2NF and Colleen Nugent
- 10 George ZS2E and Hendrina Pearson
- 15 Martin ZS2MR and Magrieta Ras

**If you are a member and your birthday or anniversary details are omitted or incorrect, please notify any committee member to update our records**



OK, FRED. I'M ON MAPLE STREET. NOW, WHICH ONE IS YOUR HOUSE?

## Sunday SARL and Monday Club Bulletins

PEARS provides a local reading of the SARL national bulletins on Sundays in Afrikaans at 08h15 and English at 08h30.

The club bulletins are transmitted on a Monday at 20h00.

All transmissions are on 7098 kHz as well as the 2m linked network that provides coverage from Butterworth to George and up to the Free State and their environs.

Please consult the PEARS webpage for any changes.

## Bulletin Roster

<http://www.zs2pe.co.za/bulletins.htm>

4 June	Chris	ZS2AAW
11 June	Johannes	ZS2JO
18 June	Eric	ZS2ECH
25 June	Glen	ZS2GV
2 July	Mike	ZS2MDL
9 July	Michael	ZS2MG
16 July	Bernice	ZS2BD
23 July	Gert	ZS2GS
30 July	Tony	ZR2TX
6 August	Chris	ZS2AAW

The bulletin readers are always looking for something to announce. If you have something to contribute, please forward it to the next reader.



## HAM RADIO OUTLET-SOUTH AFRICA cc

“Where Radio is a Passion”

Port Elizabeth’s official distributor of YAESU, Kenwood and ICOM amateur equipment



For all your Amateur needs from plugs to coax....  
give us a call 041 3711425. Speak to Donovan (ZS2DL)

**We Ship Country Wide!**

Visit <http://www.hamradio.co.za>

**For all your ham radio requirements!**

# Your Society's Committee for 2017-2018

<b>Chairman</b>	Gert Schoeman ZS2GS	082 721 4010	gert1schoeman[at]gmail.com
<b>Vice Chairman, Events &amp; Rally organising</b>	Tony Allen ZR2TX	082 956 2920	tony.zr2tx[at]gmail.com
<b>Secretary, Treasurer</b>	Bernice de Lange ZS2BD	082 390 6340	bernicedelange[at]outlook.com
<b>Repeaters</b>	Chris Scarr ZS2AAW	082 925 6367	christopher[at]peham.co.za
<b>Technical/repeaters/SAR comms</b>	Glen Cummings ZS2GV	082 411 2743	glenvanessa[at]gmail.com
<b>Meetings &amp; Refreshments, Socials</b>	Johannes Geldenhuys ZS2JO	082 320 3032	johannes[at]s4.co.za
<b>Fundraising, Socials</b>	Mike de Lange ZS2MDL	082 705 9161	mike[at]mikedelange.co.za
<b>Wifi network</b>	Michael Gooden	076 489 1764	me[at]zs2mg.co.za
<b>QSX Editor</b>	Eric Hosten ZS2ECH	072 841 4693	eric.hosten[at]mandela.ac.za

## CO-OPTED POSTS

<b>RAE Examination Admin.</b>	Donovan van Loggerenberg ZS2DL	082 852 4885	zs2dl[at]hamradio.co.za
<b>Contest Committee</b>	Theunis Potgieter ZS2EC	064 901 8079	contest[at]peham.co.za
<b>PEARS VHF/UHF Contest</b>			

Replace [at] with @ when you want to send an email (this is done to try to prevent spamming).

## PEARS' VHF/UHF, Packet & Other Services

**Local Repeaters:** These repeaters form a separate sub-net in the PE - Uitenhage - Despatch area.

<b>Town VHF</b> 145,050/650	<b>Town UHF</b> 431,050/438,650	<b>Uitenhage</b> 145,075/675	<b>Longmore</b> 145,025/625	<b>IRLP available</b> on this subnet
--------------------------------	------------------------------------	---------------------------------	--------------------------------	---

### Cape Linked System Repeaters:

These form the PEARS long-range 2-metre repeater system, in conjunction with the Border, Southern Cape and WCRWG systems. See [www.zs2pe.co.za/Repeaters/repeaters.htm](http://www.zs2pe.co.za/Repeaters/repeaters.htm) for more details.

<b>Lady's Slipper</b> 145,100/700	<b>Grahamstown</b> 145,150/750	<b>Cradock</b> 145,050/650	<b>Noupoort (link only)</b> 438,750 / 438,675
<b>Colesberg</b> 431,075/438,675	<b>Kareedouw</b> 145,125/725	<b>Plett</b> 145,175/775	<b>Brenton</b> 145,075/675

### Packet network:

<b>ZS0NTP-2 Packet Node</b> Lady's Slipper  144,800 1200bd 439,850 9600bd 434,800 1200bd APRS	<b>ZS0NTP BBS</b> Lady's Slipper On all node frequencies	<b>ZS0GHT-2 Packet Node</b> Grahamstown 144,800 1200bd 434,800 1200bd 439,850 9600bd (to LS)	<b>ZS0CDK-2 Digi</b> Cradock 144,800 1200bd
	<b>ZS0KDJ APRS Digi</b> Mount Road 434,800 1200bd	<b>ZS0KDB APRS Digi</b> Longmore 434,800 1200bd	<b>ZS2ABZ-4</b> WMR918 WX Station 144,625 1200bd

**VHF Beacon:** 50,007 MHz FSK – ZS2X, 25 Watts into 2 element Yagi beaming north.

**Banking details (for subs & donations):** NEDBANK SAVINGS ACCOUNT No. 221 252 7594, Bank code 121217, A/C name: Port Elizabeth Amateur Radio Society. **Please use call signs as a reference.**

### Disclaimer.

Note: The Editor, nor any PEARS club member, shall not be held liable for errors and/or omissions in any article and/or drawing contained in this newsletter. Furthermore, any view expressed is not necessarily that of the Editor, any committee member or other members of the Club. The material contained in this newsletter is not meant to defame, purge, humiliate and/or hurt someone's person or feelings.

If copyright is unintentionally infringed, we apologise, this newsletter is published as a free service to Amateur Radio operators and friends and is neither for profit nor gain.

**TO:**

**IF NOT DELIVERED  
RETURN TO**

Port Elizabeth Amateur Radio Society  
PO Box 10402  
LINTON GRANGE  
6015

AMATEUR RADIO is the hobby for RADIO EXPERIMENTERS  
and those who like to fiddle with ELECTRONICS,  
COMMUNICATIONS or COMPUTERS