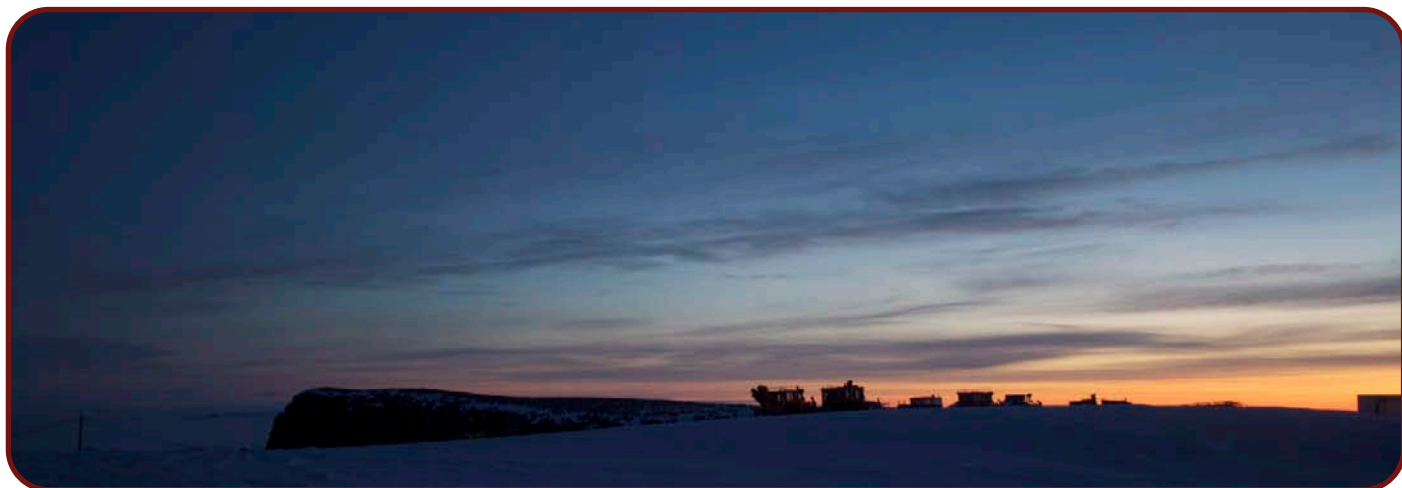


# SANAE 51

THE NEWSLETTER OF THE 51st SOUTH AFRICAN NATIONAL ANTARCTIC OVERWINTERING EXPEDITION



## THE BEARDED EDITION

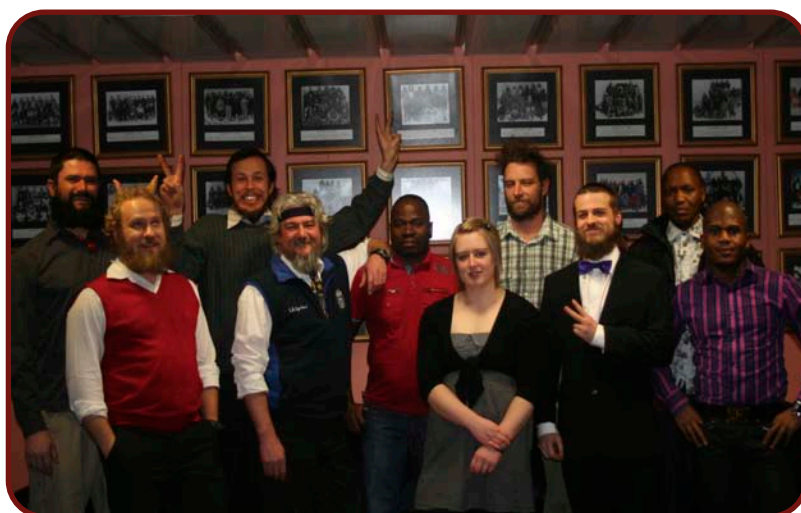
Beards, beer, and a few bad haircuts, along with some other equally important topics..

### MIDWINTER

Braam Beukes

Midwinter, this was a term unfamiliar to me when I first heard about Antarctica. The logical conclusion was that it was something occurring in the middle of the winter. Only later would I find out it was actually the winter solstice. This event marks the point in time when the middle of winter has been reached and that means that summer was slowly but surely on its way. This also meant that the sun would be returning to Antarctica and that was definitely a cause for celebration!

We celebrated midwinter this year on the 21<sup>st</sup> of June along with all the other stations in Antarctica. It was



#### In this issue:

Midwinter.....	1
The art of beard.....	2
Beerfest.....	4
The HF cable! Radio technician's report.....	4

Food processing.....	5
S51 vs the oranges, take two.....	6
Another snow bath at SANAE.....	7
The DARN radar.....	8
DIY beard kit.....	9
SANAE trends.....	11
* PLUS 10 reasons to grow a giant beard	

decided early on that every team member would contribute to the meal on the evening of the 21<sup>st</sup> of June. I was elected to bake muffins and I baked them the night before midwinter. That was a good thing as the kitchen was a hive of activity the next day with everyone preparing their dishes. During midwinter's day I assisted our team leader Jako with setting the table and lending a hand where possible. The smells flowing from the kitchen on that day was something every hungry stomach would appreciate and would have wanted to explore in detail – just wonderful.



After all the preparations were done the scene looked similar to a Christmas feast. We even had candles on

the table with napkins, Christmas crackers and believe it or not, after dinner mints! Just before

starting the meal everyone dressed in their best clothes. This was a welcome change to the normal day to day attire we have become accustomed to and it already made the event a special occasion.

When everyone was seated, and all the food brought from the kitchen, Jako read all the midwinter wishes we

received. It was amazing to hear how different

stations all around Antarctica were wishing each other well and giving words of encouragement for the times that lay ahead. Afterwards you could not help to reflect on the time that had passed and how you ended up here.



With the formalities out of the way we started to devour the wonderful food and enjoyed each bite. We chatted and laughed as we enjoyed the moment. I was a little upset that my muffins did not get a lot of attention. After thinking about it I realised that everyone were so full from the previous courses that dessert would have to wait a little – or that is what I told myself anyway ☺.

After dinner we moved to the games room where some of the team started to play some pool. Jako presented some spinning tops and this provided us with some amazement. We could not believe that some of the team members were so good at playing

spinning tops. The rest of us would require a lot of practice but it was nice to learn something about our fellow team members we did not know.

All in all, it was a wonderful day filled with excitement,

good food and good conversation. Now we look forward to the sun returning and us continuing our journey on this frozen continent. ☺





# THE ART OF BEARD

Johan du Plessis

One of the many perks of life outside society is that social norms do not apply (it might be a disadvantage, depending on your point of view). So if the old razor blade gives you rash and you feel like growing yourself a Viking or even a Barbarian beard you are free to do so. This has in actual fact become one of SANA's traditions and a prize is normally given to the wildest beard after our one-year stay. Whether the promise of a prize turns something into an art form remains to be seen. You, however, do not need to live in seclusion to grow some facial hair. Beard growers worldwide have the World Beard & Moustache Championship to aspire to. The categories in this contest include terms like: Musketeer, Dali Moustache, Verdi, Hungarian moustache, Fu Manchu, Garibaldi etc. To win this competition you would need to sport some facial hair of the following calibre:



\*\* ffffound.com



\*\* 96rockon.com

Living on the coldest and windiest continent in the world would make the above examples rather unpractical. The professional models to the right show some examples of what seem to work in Antarctica. From a practical perspective growing a beard has many advantages. According to reliable sources on the internet, a man would shave a minimum of 20 000 times in his lifetime.

According to the same source, only 1% of men actually enjoy shaving. Additionally, an average shave takes 3,5 minutes. Thus, a major plus for beard growers is the  $20\,000 \times 3,5 = 70\,000$  minutes of wasted life that can be reclaimed for more pleasurable activities. (On the downside, you might need those extra minutes looking for a woman, as nearly 70% of American women prefer clean-shaven men.)

Other disadvantages include difficulty in

eating, or rather difficulty in eating in a manner where all your food ends up in your mouth. In the time of Alexander the Great beards were also a taboo as beards could be grabbed and gave warring opponents an advantage. If this year gets much longer having a beard might also become a crucial disadvantage for some - just kidding.

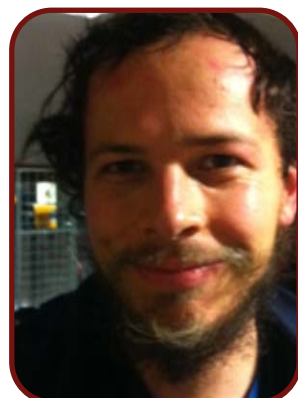
On the plus again,

*"Over the course of history, men with facial hair have been ascribed various attributes such as wisdom, sexual virility, masculinity, or a higher status; although beards may also be perceived to be associated with a lack of general cleanliness and a loss of refinement."*

- Wikipedia

beards do form a barrier to the environment and personally I prefer ice on my beard to ice on my face.

In conclusion there is some controversy as to whether growing a beard is a form of art or whether it is exactly the lack of art. Seeing one of your teammates with half his breakfast entangled on his face certainly does not inspire poetry, but carrying a built-in balaclava around does have some appeal. ☺



# BEERFEST

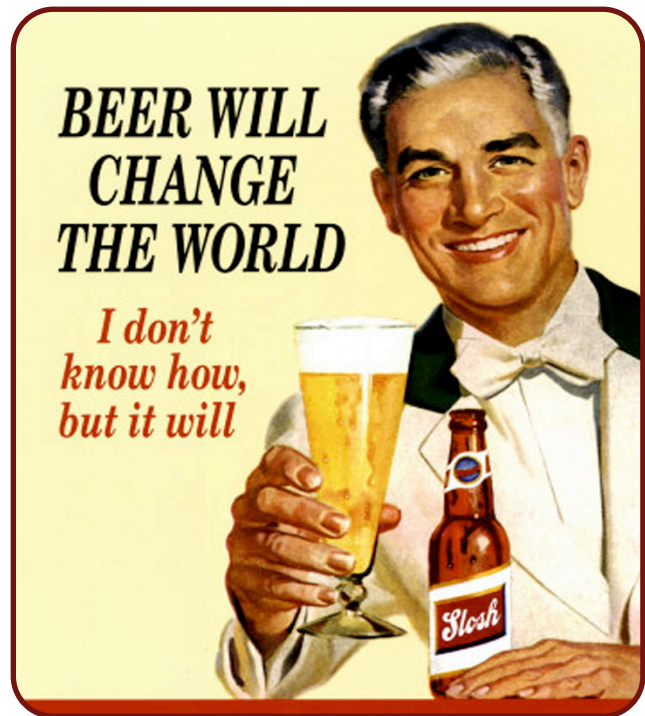
Stefanie Strachan

What would a year at SANAE be without a beer fest? S51 took the more classy approach to the beer subject, and instead of having a bunch of sweaty drunk people bumping into each other in a tent, we had a classic beer tasting evening. Dress code included a collared shirt and a hat.

The evening consisted of a blind tasting where each of the participants had to taste eight different beers, guess each brand, and then give the beer a rating out of 10. Since we only had four big jugs, the tasting was divided into two sessions of four beers each, with the participants of course being unaware of



which four beer brands would be in which session. By the middle of the second session, even the colour of the beer was considered to figure out the year in which the beer was brewed based on how much rain fell and what color the growing barley was. The salty pretzels Jon made didn't help the taste buds either, since apparently beer



tastes different after munching a piece of pretzel. In other words, everyone was pretty much lost - it all tastes the same after a while.

At the end of the evening each participant's score card was graded, and Jako went home with the prize. All the ratings were added up, and in the end one of the more expensive beer brands turned out to be the favorite. ☺

Brand	Score /10	Price R/330ml
Amstel Lager	7.2	6.87
Windhoek Light Lager	6.2	6.87
Hansa Pilsener	6.2	6.04
Windhoek Draught	6.2	5.94
Carling Black Label	5.4	5.86
Heineken Lager	5.2	8.33
Castle Lager	5.2	6.04
Windhoek Lager	4.8	6.67

## Reason 2

Every beautiful woman you meet will want to touch, stroke, and possibly frolic in your amazing beard

Your beard is my soul mate,  
I want to make love to it!



## Reason 3

Great for Sledding





# THE HF CABLE! RADIO TECHNICIAN'S REPORT:

Elrich Delpont

I was asked to take the responsibility to pull a different HF (high frequency) cable from the mast on the Southern buttress to the base. This is to enable us to have better communication whenever there is a CAT train or expedition at greater distances from SANAE.

All said and done, little did we know what all of this implied! At some places the existing cable was buried in almost a meter of blue ice and solidly frozen. The weather was changing rapidly and we were pressured for time and daylight! At any available opportunity we frantically started digging the cable out from underneath the ice.

Needles to say, we got the cable out and raised it off the ice by laying it on rocks that we stacked on top of each other. Now we had to contend with the solidly frozen cable, (the cable is pulled

through a corrugation galvanised pipe). Using heater tape was our only resort, but with the power so far away this brought problems of its own.



Eventually we covered the pipe in insulation to assist the heater tape and to eliminate the chill factor, which was by now really becoming a worrying factor. We defrosted sections of the pipe at a time and pulled the cable trough as we moved along. This process was nerve rackingly slow and as mentioned, we were running out of daylight. Eventually we pulled



the cable into the base and to the radio room. Now all that remained was the securing of the antenna to the ten meter mast. At this stage I would like to say a special thanks to Jon and Braam for their efforts in this regard. We will have to wait for daylight and better conditions to do any further testing and to see if any improvement on the HF communication has been accomplished.

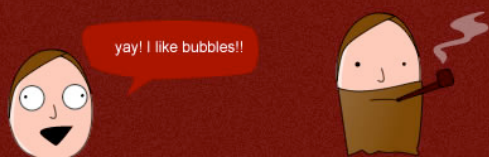
As radio technician I would like to express my sincere appreciation and admiration for the SANAE 51 team for all the help and encouragement shown through this process.

It is truly heart warming to see and experience the character of the team! 🧊



## Reason 4

It makes you appear smarter.



Before: room temperature IQ

After: intellectual

## Reason 5

In times of crisis, people always flock to a bearded person

A TSUNAMI IS APPROACHING!  
WHERE IS THE NEAREST BEARDED MAN?!

HAVE NO FEAR, MA'AM! GIANT BEARD  
HERE AT YOUR SERVICE!



# FOOD PROCESSING

Jako Bester

At SANAE each overwintering team gets supplied with ample fresh produce that should last each team through the winter until the next takeover. Over the years it has remained the overwintering team's responsibility as to how they manage the fresh produce to get the maximum shelf life out of each product, for as we all know fresh produce lasts only so long before it becomes uncomfortable and generally unsafe to consume ... well as a previous S49 member said "Vrot' is relative"...

Try as hard as we may with some fresh produce, the rate of decay just seemed to out-pace the rate of consumption, despite our best efforts.

So it has befallen the team doctor to oversee the processing of the fresh produce as far as possible to keep it, well lets just say, reasonably pleasant to consume...

So it took some reading, internet browsing, advice from previous overwinterers and as usual, the phone call to Mom's kitchen back home.

The reading bit was the least time consuming part of the massive processing task ahead.

Firstly, most of the potatoes got spread out in a cold and dark place to try and preserve them as far as possible. From there they can be used as needed and of course as time proceeds, be processed for future use



Peeling, washing, and of course semi-boiling 12 bags of potatoes was no mean feat... thereafter they got spread out in pans, frozen and then scraped into and sealed within vacuum bags for the remainder of their existence

in the freezer at -20 degrees until they are used for stews or fried.

A similar fate awaited the remaining fresh carrots - grated, mixed with orange juice and then frozen as carrot salad.

The onions were initially also kept in a cool place, but eventually diced and some sauteed and then frozen in vacuum bags.

Some oranges and grapefruits were also liquefied and frozen as fruit juice.

Thus far most of our apples and oranges seem to still be going strong and will hopefully not suffer a similar fate as some of our peaches and pears earlier in the year.

... seeing as my homemade peach atchar jar has had quite a long 'shelf life' to date, I will not venture any more atchar or chutney cooking attempts soon... ☺



## S51 VS THE ORANGES, TAKE TWO

Stefanie Strachan

One way to keep the SANAE minions entertained, and hence out of trouble, is to teach them meaningful skills, so medical training sessions have become a regular thing here at the base. As

you will recall from a previous newsletter, the first training





session was on how to suture an open wound. Since this would be a very unpleasant experience if no anesthetic was used to numb the wound, the next installment was to teach us how and what to inject into the wound to numb the pain before stitching it up. This was followed by a lesson on how to give an intramuscular injection.

Again, our poor little oranges had to endure an hour of suffering as we each had our turn to practice what we have just been taught. Jako did bring out some vitamin B if we wanted to practice on each other, but nobody was brave enough to offer up a

'cheek' for the others to have a go at this newly learned skill. The last lesson was on nebulisers and what to do when a person goes into asthmatic shock. Luckily none of our team members are

asthmatic, but in these cold temperatures it is always good to be prepared, especially during takeover when new summer personnel might show asthmatic symptoms even

when they are not diagnosed asthmatics.

Next on the agenda will be reviewing and practicing patient transporting techniques learned back in Cape Town. Seeing that



this was done more than seven months ago, the pretend patient might just end up being a real patient by the time we get him to the hospital! ☺



## ANOTHER SNOW BATH AT SANAE

Vincent Rademeyer

On the 25th of June our Mechanical Engineer, Johan du Plessis, was awaiting his snow bath for his 39th birthday, but the weather was not playing along. A strong wind was still blowing out side for days and



unfortunately only the party and cake was possible. Ten days after his birthday we had a chance to go and prepare a nice hole in the ice for the event. There was no wind and it almost looked as if Johan wanted to stay buried in the snow for a little longer. ☺



Reason 7 In emergencies, it can keep you and your friends warm



# THE DARN RADAR

Jon Ward

## Introduction

One of the scientific instruments that is located at SANAE IV is an HF Radar, which is part of the Super Dual Auroral Radar Network (SuperDARN). It is an international collaboration of researchers interested in the Earth's near-space plasma environment. This group uses high frequency (HF) radars and backscatter from magnetic field-aligned plasma irregularities to measure their position and Doppler velocity, in order to study space weather manifested in the Earth's magnetic field (magnetosphere) and ionosphere.

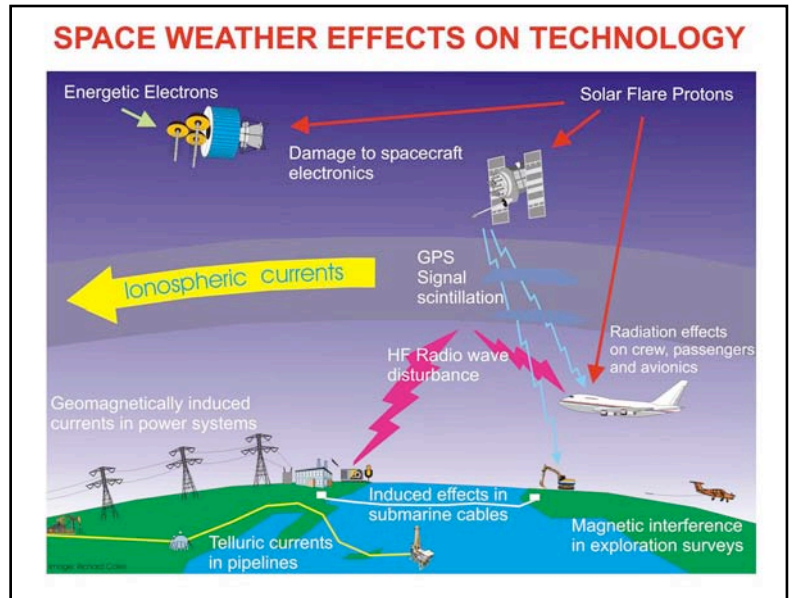
The movements of these irregularities are tied to the movements of the Earth's magnetic field which, in turn, extends into

space. The study of space weather phenomena is important because it impacts many of our technological systems including Global Positioning System (GPS), spacecraft orbits, power distribution, surveillance radar, HF communications and transpolar aviation.

## Background

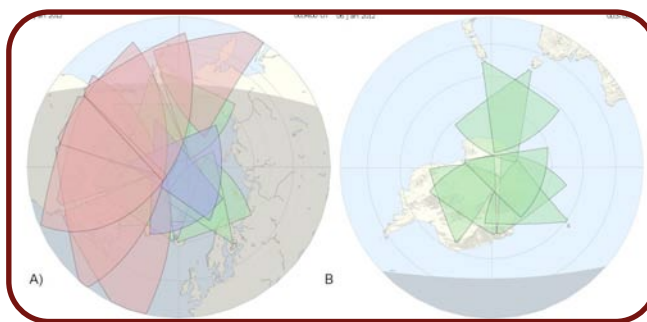
SuperDARN currently consists of 25 radars operated by 11 major partner countries in both the Northern and Southern hemispheres. There are more radars in the northern hemisphere but only because there is more land-mass within measurement distance of the North Pole.

Unlike polar orbiting satellites, which only pass over a specific area a few times per day, HF radar permits continuous monitoring of these regions. Ground-based systems are also much cheaper to build, operate and maintain than space-craft. The SuperDARN network is still



upper atmosphere which consists of ionized particles (atoms that have lost or gained an electron) as well as free electrons. It exists due to solar radiation. The ionosphere starts at an altitude of approximately 60 km and extends up to over 1000 km. It is a layered structure and the concentration of ions and electrons vary with altitude, local time, season and solar activity.

Radars studying the ionosphere only receive backscatter from irregularities that are aligned with the Earth's magnetic field. In order to get a signal to reflect off an irregularity, the signal needs to travel at 90 degrees (orthogonal) to the geomagnetic field lines. This condition limits observing field-aligned backscatter to certain locations on the Earth. Two areas where radars can easily send radio

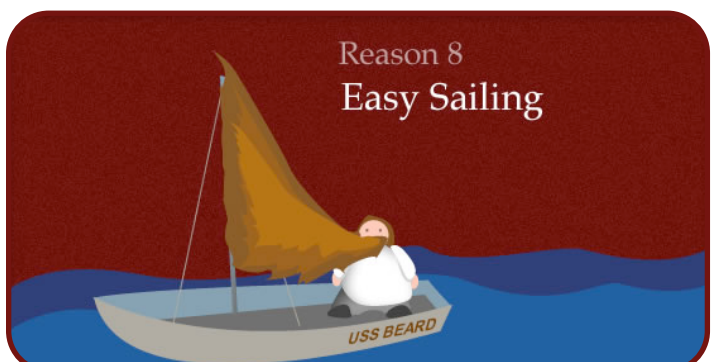


Location of SuperDARN radars in A) Northern and B) Southern Hemispheres

expanding, with new radars joining the network almost yearly. SuperDARN is also being extended to the mid-latitudes with the data being used not only for space weather research but also for oceanographic studies, with the combined footprints of the network covering ever increasing portions of the Earth's oceans.

## The Ionosphere

The ionosphere is so named because it is a layer of the





waves orthogonal to the geomagnetic field lines are in the high-latitude and equatorial zones, which is why these radars are located in the Polar Regions.

### The Data

Each radar in the network produces the same data product so that, at any given time, data from every radar can be compiled together to provide a snapshot of the ionospheric conditions. These measurements from multiple radars can ultimately be used to produce a space weather map of ionospheric plasma motion. This map of space weather conditions is then used by researchers to understand other ground-based and space-craft measurements relating to the ionosphere and the Earth's space weather.

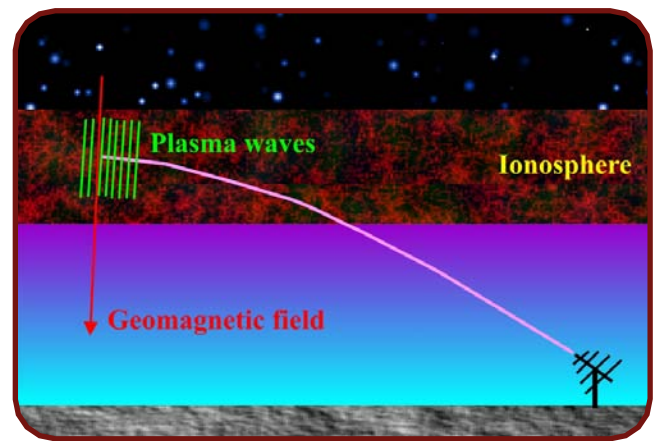
### Our Role

Our radar is one of the oldest radars in the network. I think we were the second radar to be deployed in the southern hemisphere in 1997, about one year after the British radar at Halley and shortly before the

Japanese radar at Showa.

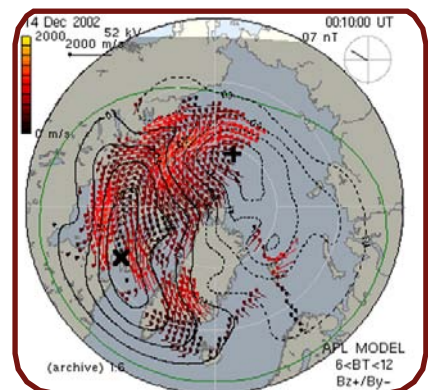
The radar has now been operating for over 15 years and has provided valuable data to the network's scientific community. The SuperDARN website lists over 700 journal and conference papers published by researchers using SuperDARN data. Countless postgraduate degrees have also been awarded to physics and engineering students at home and abroad, all of whom have used SuperDARN resources.

One can gather from the growing interest in space weather phenomena as we approach the solar maximum in 2013 as well as from the continued deployment of new SuperDARN radars all over the world, that need for this instrument is likely to continue into the foreseeable future, feeding local human capital development and



Radar waves interacting with plasma irregularities in the ionosphere in the

increasing South Africa's standing in the scientific and engineering communities. ☺



Example of an ionospheric convection map

\*\* photos found at <http://superdarn.jhuapl.edu>

### Reason 9

You can hide things in it, such as weapons, tools, and snacks.



### Reason 10

Good for Smoke Signals



\*\* reasons found at [www.biggerbetterbeards.org](http://www.biggerbetterbeards.org)

## WISH YOU WERE BEARDED TOO?

Stefanie Strachan

Feeling sad, left out, and jealous of the manly Antarctic beard grower? We have the solution! Even if your chin can only sport a sort of fluffy-looking fuzziness, or even worse, if you can't grow a beard at all, you can now enjoy all the benefits that come with beardedness with your very own **DIY Beard Kit**. Follow the simple instructions and in 4 easy steps you too can be a bearded wonder.

Instructions:

1. Print beard kit on A4 paper
2. Cut out beard by following the outline
3. Punch holes on sides of beard and loop strings or rubber band through holes
4. Put beard mask on face and wear awesome new Antarctic beard with pride

Feeling crafty? Using a non-toxic glue, attach fuzz to

# Beardfluff



Send your best beard pic to [s51puzzles@gmail.com](mailto:s51puzzles@gmail.com) and maybe win a prize!



# SANAE TRENDS

## Temperature

Maximum	-13.1	°C
Average Max	-18.5	°C
Average	-21.2	°C
Average Min	-23.9	°C
Minimum	-27.3	°C

## Pressure

Maximum	909.4	hPa
Average Max	891.2	hPa
Average	887.2	hPa
Average Min	883.0	hPa
Minimum	865.6	hPa

## Humidity

Maximum	100%
Average	65%
Minimum	14%

## Wind speed

Mean	25.6 Knots (51.6 km/h)
Maximum Gust	90.4 Knots (180.8 km/h)

## Daytime lengths

Average day length	0 hrs
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## Quote of the month

Jako: (after chewing a mouth full of beard with his breakfast cereal) "I love the fresh taste of beard in the morning!"

Jon: (at the dinner table) "Here's a fun fact for you...  
Oh wait, I've lost my train of thought"

(While Jon is getting his hair shaved into the classic mullet-style)

Braam: "You crying Jon?"

Jon: "Just a little bit.."

## Movie of the month

Get Smart

## Song of the month

Bearded nation - The beards

## Dish of the month

Midwinter dinner

## THANKS TO OUR SUPPORTERS:



MEERLUST





Support also by the following individuals:

Homemade Buffs – Mrs du Plessis

Homemade Ginger Biscuits – Mr and Mrs Knoesen, Mrs Bester

## S51 PUZZLE 2 - ANTARCTIC MAZE SOLUTION

