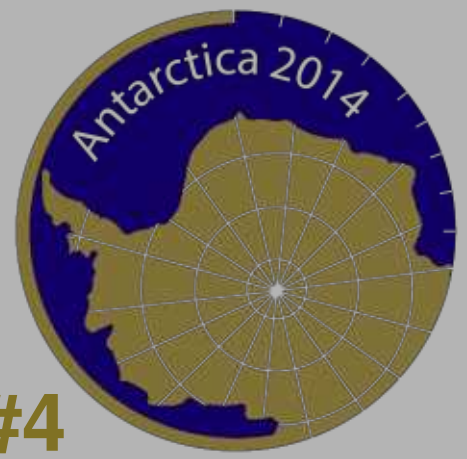


SANAE53

South African National Antarctic Expedition

Newsletter #4



Settling in

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Photographic Exposé of the Smelly

Patrick

“Throwing Smelly” is a SANAE institution. It is a way of life. It can be a pleasure or a pain. But it is non-negotiable. The Smelly’s appetite is insatiable.

We use water for all the usual reasons, like drinking, washing, cooking, cleaning and flushing toilets. But we also use water to cool the base’s generators and to heat the base by means of heat exchangers. Last but not least, the ice machine in the bar needs fresh water. Yes, we have an ice machine in Antarctica. Actually, two ice machines.

The base uses 1,000 - 2,000 litres of water per day. We maintain the water level in the base’s tanks around 30,000 litres. This should last us several weeks in case of a smelly disaster or a never-ending storm.

There are different reasons for heading down to the smelly. It may be as simple as we need more water. Or to escape the base, catch some fresh air and get a workout shovelling snow. In really strong winds, going out to the smelly can be a test of machismo. And from time to time the technical team has to go down to the underground pump-room to inspect the motors, grease the pumps, replace elements, check for leaks and so on.

No matter your reason for going, you’re guaranteed to do a fair amount of shovelling. The opening quickly becomes covered by a mountain of snow which needs to be dug through, to collapse the ice-bridge and fill the smelly. And the pump-room access hatch is always covered in snow. Always. But what do you expect, this is Antarctica. There’s gonna be snow.

So far, it has been relatively easy to appease the Smelly Gods during the warm, sunny summer months. No doubt it will be a different ball game in the dark depths of winter, yet to come.



Big Boy and Shorty heading down to the smelly, with the base in the background.



There is an opening somewhere underneath all that snow



There it is!

A typical week for the Electrical Engineer

Charles

Monday morning waking up at around 05:00 (RSA time), I thank my savoir for another day. I take a shower, make breakfast and catch up on current news. Then it's meeting with fellow SANAEans about activities and problems from the previous week and plans for the coming week. Then it's skivvy time, and each of us are allocated a duty that needs to be done concerning the cleaning of SANAE IV base. This usually takes half the day to complete, after which it's about lunchtime than we take a break. I then go to my office and see what faults there are that need my attention. Later I accompany the smelly filling team to fill the smelter to make water.

The following days will be the same, with the faults that I need to attend to like broken lights in and outside the base or heaters that are not working properly. On some occasion I will assist in the waste runs, go depot the equipment, do my monthly report and sometimes write an article for our newsletter (and lose it, as I normally forget to save after ending my report or newsletter article).



Charles praying to the Smelly gods to accept his humble offering of a new heating element

On the weekends I spend some time I my room reading my bible and missing my loved ones, DSTV and live BPL soccer. Then we end the week with me making food with the help of my friend and colleague Leonard, who just happened to move from the dining hall to the bar. This is my typical week here at SANAE IV base with all its excitement and not so exciting duties but it's an experience of a lifetime.



What I Miss

Brandon

Firstly and mostly I miss my wife and kids at home; I miss being at home in general, the sunshine days, the rain falling on the afdak, driving with my family, sitting in traffic, enjoying the scenery and actually seeing something besides white.

I miss my wife's cooking, she is the best cook. I also miss eating out like KFC, McDonalds and Steers, just to mention a few. I can't wait to get my hands on a full house masala steak Gadsby again.

I miss the sound of a car's engine that's been dragged to the red line, especially from a distance when I'm lying in bed at night, most likely to come from sack's circle, the illegal drags hot spot just a stone throw from me.

I miss my family, and the very most my two boys at home. Especially my baby who is just a year and 7 months old this month, talking more and more every day and figuring out new things. Fortunately for me his mommy keeps me well updated on everything my boys do.

On the other hand, being here in Antarctica is a lovely and very rare experience. Not a lot of people get this opportunity and I'm very grateful for it. And despite the fact that it is extremely cold here, with the temperatures dropping daily and the winds getting stronger (how lovely is that), soon we will be able to see the auroras or southern lights. Wow, don't you just wish you were here right now.

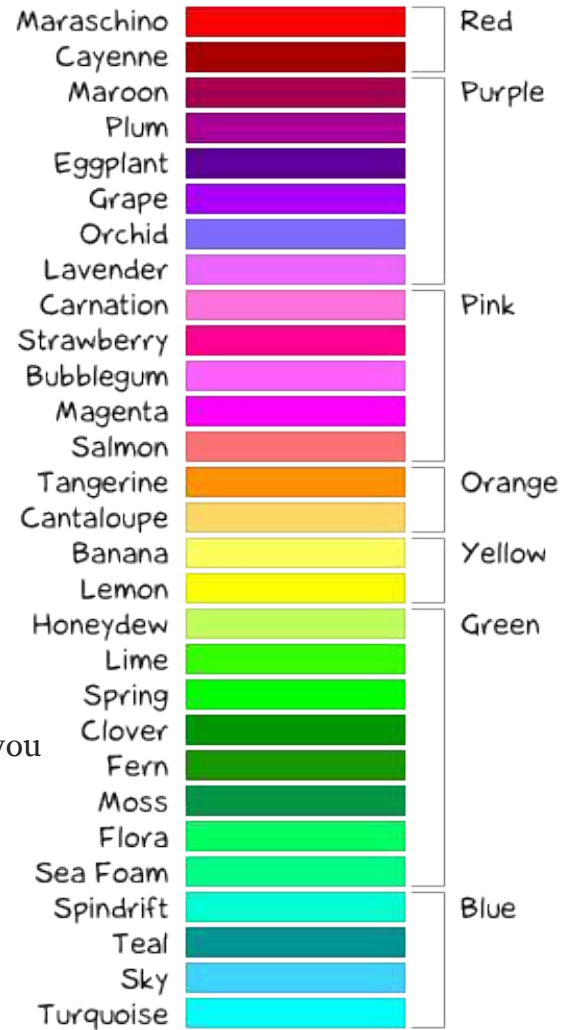


Man Rules

Raymond

At last a guy has taken the time to write this all down. We always hear "The Rules" from the female side..... Now here we have " The Rules" from the male side. Please note these all numbered #1 on purpose.

- (1). Men are not mind readers.
- (1). Crying is blackmail.
- (1). Ask for what you want, let us be clear on this one:
 - subtle hints do not work !
 - strong hints do not work !
 - obvious hints do not work !
 - Just say it!!!!
- (1). You have enough clothes.
- (1). You have too many shoes.
- (1). If you think you fat, you probably are, don't ask us.
- (1). Yes and no are perfectly acceptable answers to almost every question.
- (1). When we have to go somewhere, absolutely anything you wear is fine..... really.
- (1). Come to us with a problem only if you want help solving it. That's what we do. Sympathy is what your girlfriends are for.
- (1). Anything we said 6 months ago is inadmissible in an argument, in fact, all comments become null and void after 7 days.
- (1). If something we said can be interpreted two ways, and one of the ways makes you sad or angry, we meant the other one.
- (1). You can either ask us to do something or tell us how you want it done, not both. If you already know best how to do it, just do it yourself.
- (1). Whenever possible, please say whatever you have to say during commercials.
- (1). Christopher Columbus did not need directions and neither do we.
- (1). All men see in only 16 colors, like windows default settings..., peach, for example is a fruit, not a color, pumpkin is also a fruit, we have no idea what mauve is ok.
- (1). If we ask what is wrong and you say "nothing" we will act like nothing's wrong. We know you are lying, but it is just not worth the hassle.
- (1). Learn to work the toilet seat. You're a big girl. If it's up, put it down. We need it up, you need it down. You don't hear us complaining about you leaving it down.
- (1). If you ask a question you don't want an answer to, expect an answer you don't want to hear.
- (1). Don't ask us what we're thinking about unless you are prepared to discuss such topics as football or motor sports.
 - (1). Thank you for reading this. Yes, I know, I have to sleep on the couch tonight... but did you know men really don't mind that ? Its like camping ...



Have a great day !!!!!!!

The Bum in the Backyard

Hendrik



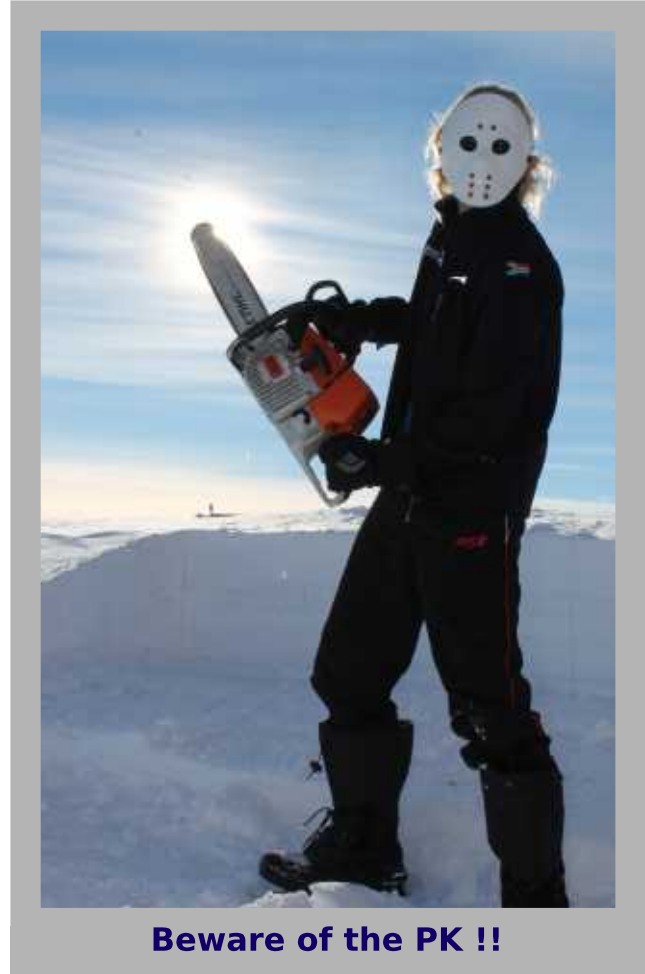
Our own little quarry

Antarctica is a weird place for weird people where weird things happen. So, except for the girl of B5, the little girl in the radar hut, Skimmelman and an entity that follows you when you take a stroll alone in the windy dark, we have a bum. I do not know where he was during take-over, but directly after take-over he started to live in our hastily built igloo in front of the base.

As South Africans we felt obligated to bring our culture to Antarctica, so we built our own shack under the direction of the igloo chief. First, like good scientists, we did our research and included our trustworthy, peer-reviewed citations:

According to legend Wikipedia:

"The 1922 documentary Nanook of the North contains the oldest surviving movie footage of an Inuit constructing an igloo. In the film, Nanook, whose real name was Allakariallak, builds a large family igloo as well as a smaller igloo for sled pups. Nanook demonstrates the use of an ivory snow knife to cut and trim snow blocks, as well as the use of clear ice for a window. His igloo was built in about one hour, and was large enough for five people."



Beware of the PK !!



Very slow progress ...



...and finally done



Note: The term Eskimo is in some place considered pejorative. The politically correct names are either Yupik or Inuit, depending to which cultural group you are referring to.

We have a chainsaw, two ice saws and few engineers. Hence, consistent with our research, we thought that an interested group of us can build the igloo in a Friday afternoon. It was a small miscalculation, in line with the Antarctic law of required minimum time to get

something done (estimate the time required, add a buffer because we are in Antarctica, then multiply the total with Pi), some of us didn't have a weekend. But given, six people can sit quite comfortably in our hut, and you can even stand inside. Well some of us can. If we want, we can squeeze the whole team inside, like we did when we tried to build the roof for the first time. The volume of the igloo increasing is consistent with the power law and assuming that the time needed to build



an igloo is directly proportional to the volume, I think we did rather well. We upped Nanook's five people igloo to 10 people. Unfortunately we do not have dogs like the legends before us, so we didn't build a small dog igloo. But a puppy is on the order list for next year.

The bum's living place is quite luxury, it has electricity and WiFi. Have you ever heard about an igloo with a WiFi!! Oh and don't forget the relatively unlimited simply of savoury bully beef for the bum. With candles and linen stolen from the store rooms and two mattresses stolen from who knows where, the igloo is surprisingly cosy. The igloo is also warm (relatively speaking). It can go above zero when two people dance inside, scientifically proven.



How Potatoes can be so Different to Potatoes

Sonja

You probably remember the last time you threw away some shriveled potatoes, not only because they were starting to grow mouldy, but also because their wrinkled skin reminded you of your own aging (Hey - I'm turning 30 this year!). Well, here at SANAE we hang onto those potatoes for a little bit longer, even though they are starting to develop their own personality. At the beginning of take-over we received 100 bags of 10kg of potatoes, which should have lasted until August. But with “skimmelman” (full story to follow in some future newsletter), the life span of said potatoes waned as quickly as the popularity of most politicians.



And so, while half the team managed to flee to Summer Station (which has a decided lack of rotting potatoes), the other half of the team geared up on personal protective equipment (read: latex gloves, random face-masks and lots of air freshener) to fight the stench coming from the dry store. The result was a couple of waste bins filled to the top, the newly inaugurated “potato office” (previously known as the “International Office”) and a few bags in the freezer. Then, luckily still in our absence, the same was repeated with the Vinson Massif of onions.



Besides the attack of the killer potato stench, we are very well stocked on food, and could probably also supply a small African country plagued by famine, should they be able to drop by and pick up some food.



Firstly, there is the dry store, our own small Pick 'n Pay - minus the till and plus some chaos. We are supplied with everything; from tinned foods to cereal to snacks to... everything - however, we could probably do with more chocolate. The highlight of the store is the expired bully beef, a whole guesstimated 1000 tins of them. The famined African country can have these. We will keep the seemingly unlimited supply of chips for the evenings at the bar.

Moving on to the walk-in fridge: Of the fresh veggies, only carrots are left (did anyone know how long carrots could last?). The fruit lasts longer and it seems as though we'll still have grapefruit, oranges and apples and three lemons for a while. We enjoy liters of freshly squeezed orange or grapefruit juice. After spending hours in the workshop welding an “apple press” (without leaks on the seams) for apple juice, Hendrik made



the discovery of simply processing the apples into mousse and pressing that through a cloth - easier and higher yield... The milk has been transferred to the fridge, as rumour has it that even long-life milk prefers a fridge to prevent it from separating. Left-overs of varying edibility also live here.

To find something in the great depths of the freezer, one usually has to get dressed in most of the fireman's suit (i.e. cold weather gear) to brave minus 20°C and the fans running on high. Inside, the ice cream, bread, meat and various veggies are stacked to the roof. Aside from movies that we would like to watch, this year promises to be very cheesy - we inherited five tote bins of cheese from our predecessors, in addition to our "own" eight tote bins.



All this food, together with ten committed individuals translates into grande, interesting dinners. We might be at the very far outskirts of the culinary metropole Cape Town, but we still enjoy delicacies such as



sushi, Sunday lunch roasts, onion marmalade (on anything), crème brulée or white chocolate mousse and Mexican nachos or Indian curries with buttery garlic naan.

So, while I'm still deciphering the secret message behind numerous bottles of salad vinaigrette in a place where no lettuce is supplied, I might have to make a trail of Quality Street chocolates for the team to find the gym.



Drones over Antarctica

Leonard

An introduction to drones and the prospect of their use in Antarctica: A curiosity born out of my infatuation with flying machines is what got me involved in this venture.

Let's start off with the fact that I was totally fascinated by any flying machine from the time that I was only a little toddler. A passion that only grew stronger as I grew up and started building my own aircraft to fly. Firstly only with line control and later moving on to primitive radio control systems. I always thought of building autonomous machines, but autopilots have only become available for purchase in the last few years. I have bought one, obviously, but until now have not had the time to experiment with it.

I did some research on the internet to find out who else is currently involved in such projects. Quite a few environmental conservation agencies around the globe are already using drones to great effect. Some government departments are also looking into the usage of drones for different tasks. I know of one application where drones are used to monitor traffic congestion and also used against rhino poaching. One can actually walk into any hobby shop these days and buy a very capable short range drones off the shelves.

So what is a drone exactly?

So what is a drone exactly?



Drone consists of an unmanned aerial vehicle which could have various forms. Fixed wing aircraft, helicopters, quadcopters, hexcopters, even octacopters. And I assume even airships and gyrocopters might also be used, not to mention various earthbound vehicles which could be experimented with. Just imagine a small dozer pitching up at the German Antarctic base without a driver one day. How surprised would they be? They could then load any medical supplies that we urgently need into it and send it back.



Airborne drones normally have the following equipment fitted:

A Radio control system for manual handling as well as an autopilot which can take over for longer flights or even can take off and land by itself after activation. It will have at least one long range radio downlink for FPV. This stands for: First Person View. Yes you can

actually sit in your home or office and have an on-screen-view of whatever the drone is seeing. This gives on-board instrumentation feedback at the same time. More cameras can be fitted to do a recording of the whole trip and can even be made to pan via the radio link.

Propulsion might come from a 3 phase electric motor or from a small internal combustion engine. Four stroke motors are more reliable and have much lower noise and gas emissions than their 2 stroke counterparts. They would be needed for longer flights with an ample supply of fuel.

You also need a control centre which can be small enough to use outside by one person. This consists of a transceiver and a small laptop or even an iPad with the controlling software and display on, with which the whole flight and instrument feedback will be monitored. Even head-up display goggles are available so that you do not have to look down on the control interfaces.

The advantages of using drones instead of manned aircraft are as follows:

Low operating costs, where a helicopter will cost you about R 30 000 an hour I assume it will only be in the region of R 1 000 an hour to operate a drone (due to its smaller size and fuel requirements).

Less pollution and unnecessary wastage of resources like fuel, much less noise and interference with nature.

Now of course drones might never be able to replace aircraft that is used for transportation of passengers and cargo. Their usage will be limited to other minor tasks and even to improve on the safety aspects of aerial transportation.

Even night flying is possible with the aid of infrared cameras. Remember that a night can last up to 5 months in Antarctica.

So let's see what applications it might have for Antarctica.

Aerial surveys are the first that spring to mind with all the small cameras and video recorders that are available today. Spotting of crevasses and environmental pollution. Planning of routes and new building sites. How about locating buried





vehicles and tools under the sastrugis with magnetometers and sonar sensors which are readily available?

Search and rescue is another great idea. As a drone can almost immediately be deployed and be on scene before the helicopter company could even get their chopper out of the hanger onto the helipad. And remember that is only available in summer

during the few takeover weeks. Position and vital information of the scene is directly and immediately sent to the operator and can be relayed to SAR Communication centres and rescue vehicles. Dropping of medical supplies or vital food supplies to field parties in danger.

Radio repeater tasks to improve the communications with CAT trains: A drone could be sent up to circle in a certain spot for long period to perform this task as it is almost impossible to operate a temporary radio repeater-link station on ground level in Antarctica because it will only disappear underneath the ice or get damaged by storms.

And off the coast: How about counting whales, looking for passage channels through the ice? This could save thousands in terms of wasted diesel and time.

I hope that our department will also look into the possibilities of deploying drones over Antarctica and the Islands as I am sure that other countries are already looking into the possibilities.

What about environmental impact, you might ask? I have done some tests at home and found that birds in particular are rather more curious about such an aircraft than disturbed by it. They tend to follow it when they find that it is experiencing thermal activity. Animals on the ground will pay it no attention at all and regard it as just another type of bird. But I am certain that more evaluations of the impact it might need to be done.

Usage for weather observation: I was lucky enough to be at the Irene Weather Station near Pretoria for training at a time that a project was under way to investigate the possibilities of using drones for gathering weather data. This supplied me with a great deal of valuable information. Someone was also experimenting with drones flying into malicious clouds to study their formation. A task that poses great dangers for manned aircraft.

Then the greatest application for me is the possibility of alleviating me of my acute fear of flying, which I assume many people experience in one way or another. I will be able to stand safely on the ground or reside in my office while enjoying a flight for the first time.

So that is my story. Drones are here and they have come to stay. Whether we like it or not, and whether we take the opportunity to investigate in which way they will be able to assist us in our daily tasks and explorations, or not.



Cold Weather and Gear

Francois



Our season quickly changed from a 24 hour sunshine day in summer at around -8°C to a windy -22°C and a sun setting at around 16:30. But the temperature is not really what you look at when you get dressed to go outside, it's the wind. When it's windy outside (anything above 20 knots or

40km/h) you dress yourself until you are completely unrecognisable. In takeover with a lot of new people (including team members with snow goggles) there was no way to determine who is standing in front of you, unless asking. During a waste run where there are quite a lot of people working with the crane and cargo in and around the D6 bucket CAT you would occasionally hear your name or someone else's spoken to you with a lot of uncertainty, and a sigh of relief when you guess it correctly.

Any gap in your armour would be exploited by a cold wind and quickly let you forget the beautiful scenery around you, leaving you with a single warm thought "your base is where your heart is". But when these "gaps" in your armour are not directly impacting your eyes, hands or feet (all game enders) you can be kept outside for a long time to finish a task.

This article will not aim to give advice or review of gear, but to see the funny side of feeling like an astronaut on a moon landing. This is especially true when you walk outside on a windy night with a headlamp that can't see much further than your next step due to the bright white drifting snow swallowing the light. Once you have equipped your head with a balaclava,





or buff, beanie, fur hat and finally snow goggles to keep it all together you feel like you are in a “Snoopy cap” (astronaut cap). Your ears are pretty well protected from hearing anyone speak without shouting, thanks to at least two layers of windproof material. This ensures that your own voice feels amplified and you constantly hear the wind tugging on your jacket, your own breathing and the crackling sound of the snow you step on. A bonus sound will always be the sound of someone walking behind you in the snow, which will guarantee that you will look behind you at least once when walking alone in the dark. Probably the funniest thing is observing someone trying to get out of all this head gear after you have been outside for a while, because if you have any facial hair (most do) you are almost guaranteed to be frozen to your

buff and you have to wait a bit in the base before attempting to pull it off. Any moisture from you breathing turns your gear to ice. This gives rise to a very annoying fact: when you have a moustache and you spend a lot of time outside or in a vehicle on a windy day it will take a long time to defrost yourself from the headgear to be able to eat or drink anything. But luckily

in these circumstances there is usually someone around that will laugh at you to lighten the mood.

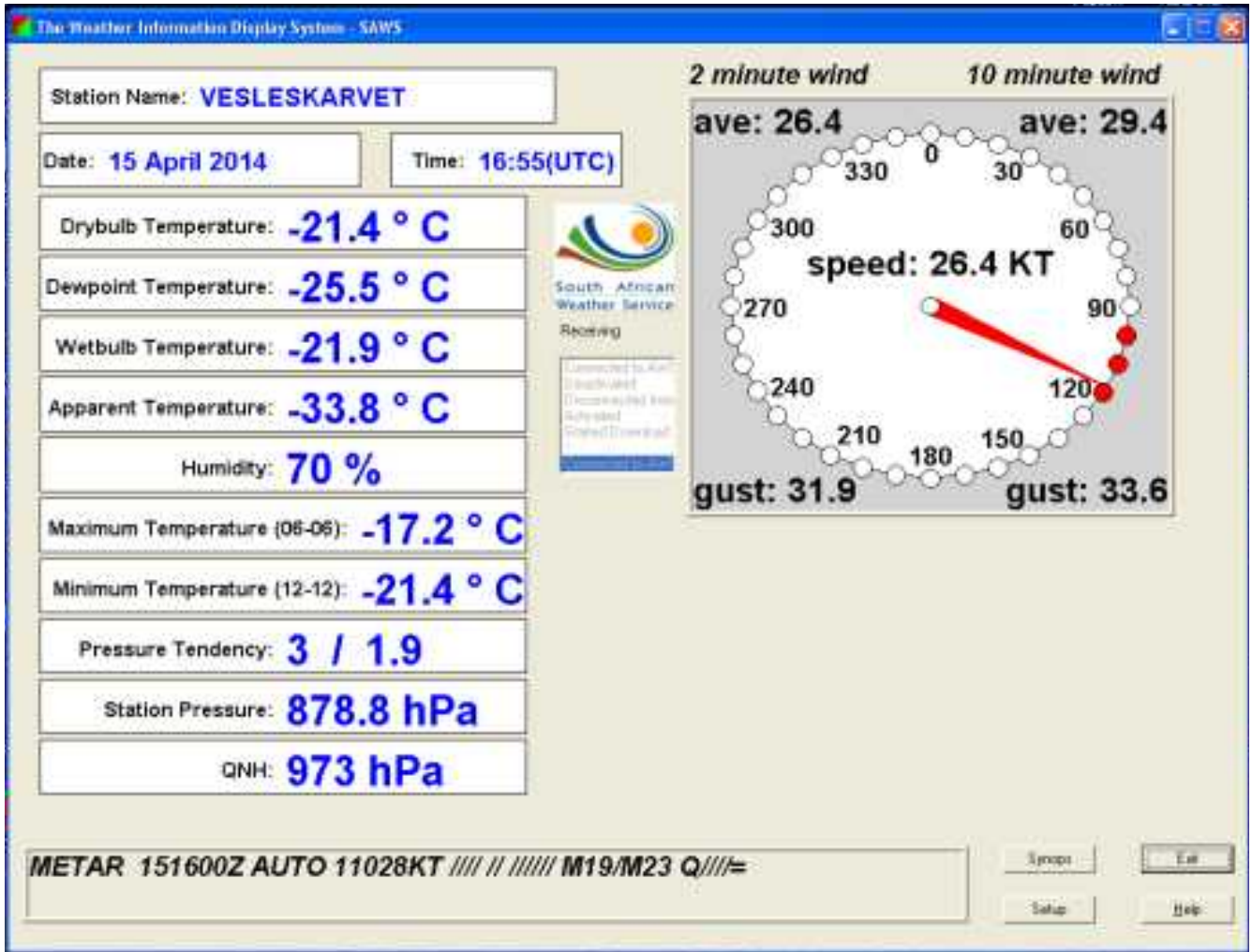
The pictures show the full suit of armour but all in all it's a lot of fun to get used to this subnormal normal



Weather by Popular Demand

Christiaan

After numerous inquiries about the true meaning of the weather information displayed in our base, I decided to treat the matter informed. Below is a snapshot of the weather information we see on a daily basis, followed by the respective definitions.



Vesleskarvet is a nunatak in Queen Maud Land, Antarctica. Its western side consists of a series of cliffs, approximately 250 m high, while the eastern side slopes more gradually down to the ice fields. The accessibility of the relatively level wind-swept snow-free summit made it ideal for the establishment of the permanent South African National Antarctic Programme research base SANAE IV. The name Vesleskarvet means flat-topped mountain in Norwegian.

Coordinated Universal Time (UTC) is the time in the zero degree meridian time zone. South Africa is at UTC+2, while we are currently operating at UTC at SANAE IV.

Drybulb temperature is the temperature of air measured by a thermometer freely exposed to the air but shielded from radiation and moisture. It indicates the amount of heat in the air.

Dewpoint temperature gives a measure of atmospheric moisture. It is the temperature to which air must be cooled in order to reach saturation. A higher dew point indicates more moisture present in the air.

Wetbulb temperature: Unlike a typical (drybulb) thermometer, the wetbulb thermometer is wrapped in a cotton wick. When the wick is completely wet, you can swing the thermometer around, and the water evaporating off the wick pulls the wetbulb thermometer's temperature down in direct proportion to the water content of the air around it. The drier the air, the more water evaporates off the wick and the lower the wetbulb temperature goes. The more humid the air, the less water evaporates and the more similar the drybulb and wetbulb temperatures are. The drybulb and wetbulb temperatures gives information about the relative humidity - the moisture content of the air compared with how much moisture it can hold. Identical dry- and wetbulb temperatures mean that the air is holding as much moisture as it possibly can - 100% relative humidity.

Apparent temperature describes the cooling effect on exposed skin by the combination of temperature and wind, expressed as the loss of body heat. Increased wind speed will accelerate the loss of body heat.

Relative humidity: The amount of water vapour in the air, compared to the amount the air could hold if it was totally saturated.

Pressure tendency: The amount and direction of change in atmospheric pressure over a 3 hour period.

Station Pressure: The pressure asserted by the mass of the column of air directly above the weather station.

Wind speed: The rate at which air is moving horizontally past a given point.

Our unit of measure is knot, which is equal to one nautical mile (1.852 km) per hour. The origin dates from seafaring days, when a wooden panel attached by a line to a reel, was tossed over the side of the ship to determine the speed of the ship. Knots placed at a distance of 14.4018 m passed through a sailor's fingers, while another sailor used a 30 second sand-glass to time the operation. This was then used in the sailing master for dead reckoning and navigation. The system was so accurate that the difference from the modern definition is less than 0.02%.

As a rough guide for the folks at home, 10 knots can be approximated to around 20 km/h or 5 m/s.

Gust: A sudden increase in wind speed.

Sea-level Pressure (QNH): The pressure obtained by the theoretical scaling of station pressure to sea-level.



IRONMAN[®]

South Africa

@ SANAE IV



After our successful (albeit slow) completion of the Argus cycle race in March (see newsletter #3), we decided to take it up a notch and attempt the Ironman Triathlon. The Ironman started 1978 in Hawaii with only 12 competitors finishing the race. Today thousands compete in the Ironman Series, with those completing the race within the strict time limit of 17 hours recognised as "Ironmen".

We did however agree that a Half Ironman is more our thing, with all the fun, but without all the pain. This shorter course consists of a 1.9 km swim, 90 km bike ride, and 21.1 km run. Our first obstacle was our lack of Olympic sized swimming pool (we've put in a request to the Department, but haven't heard back yet). So the swimming leg was swapped for a rowing machine, while multiplying the distance by three (a number which we came to with some googling and some thumb suck).



Bright and early on Sunday, 6 April 2014 (so probably around 10 am) the participants gathered in the games room, ready to take on

their different legs of the race. With the music blaring from the bar, the guys and girls sweating it out in turns, and the refreshments and snacks provided by our official road side support, Leonard ("vetkoek en mince" for carbo-loading), it turned into a very fun day.

Notwithstanding some setbacks that resulted in two of our participants having to withdraw, we finished the race in a fantastic combined time of 05:18:44. Below is a table of our respective times:

Cycle	Time	Distance	Row	Time	Distance	Run	Time	Distance
Francois	00:38:15	15	Christiaan	00:03:57	1	Hendrik	00:20:55	5
Brandon	00:30:00	15	Patrick	00:03:53	1	Patrick	00:16:35	3
Hendrik	00:28:30	15	Cornelia	00:04:49	1	Christiaan	00:16:00	3.1
Patrick	00:25:00	15	Sonja	00:04:53	1	Sonja	00:22:35	5
Christiaan	00:11:50	5	Francois	00:03:43	1	Francois	00:26:28	5
Sonja	00:30:00	15	Hendrik	00:04:06	1			
Cornelia	00:12:15	5	Brandon *	00:05:38	1			
Charles	00:15:00	5						
Totals	03:10:50	90 km		00:25:21	6 km		01:42:33	21.1 km
Finish	05:18:44 (hh:mm:ss)							

* Apparently we were so enthusiastic that we had an extra person rowing, but I've taken the time out of our totals.

Despite what it might look like, Christiaan was not actually one of our injured participants, and he's just taking a breather. I'm also pretty sure the funnel had nothing to do with it, but I can't vouch for that.



A special shout out to my brother, Hannes Oberholzer, who successfully completed his second Ironman this year, despite the race turning into "a survival day" by the end.

Very proud to have a double "Ironman" in the family!



Quote of the month: **Nadal (The Dictator)**

Aladeen: "What's wrong with Crocs?"

Nadal: "They're the universe's symbol of a man who's given up hope!"

Song of the month: **Leonard**

Poison (Alice Cooper)

Movie of the month: **The Dictator**

F-Ups of the month:

- 1) **Schumachersfjellet field trip & vehicle recovery mission**
- 2) **Christiaan** **Not alerting team of aurora**
- 3) **Rest of team** **Not seeing an aurora yet**

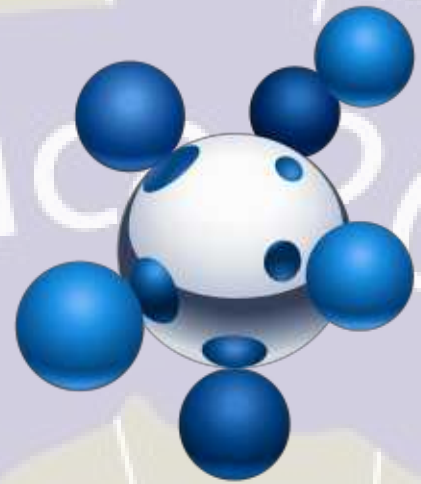
Weather statistics for 16 March - 15 April 2014:

	Maximum	Minimum	Average
Pressure	893.7 (13th Apr)	863.7 (23th Mar)	879.4
Temperature	-10.9 (21th Mar)	-27.9 (10th Apr)	-18.5
Humidity	95% (23th Mar)	26% (30th Mar)	68%
Wind gust	38.9 m/s (12th Apr)		
	75.6 knots		
	140.0 km/h		

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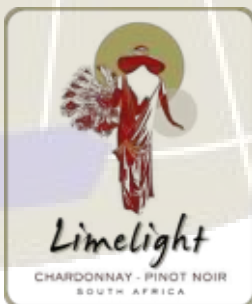
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Brandy



Music Instruments



Toiletries



Optics

