



Newsletter #4
April 2013

SANAE 52

»» Magical lights fill the sky...

Aurora Australis

The Neutron Monitor

Watching the Crimson Sky

Keeping Fit

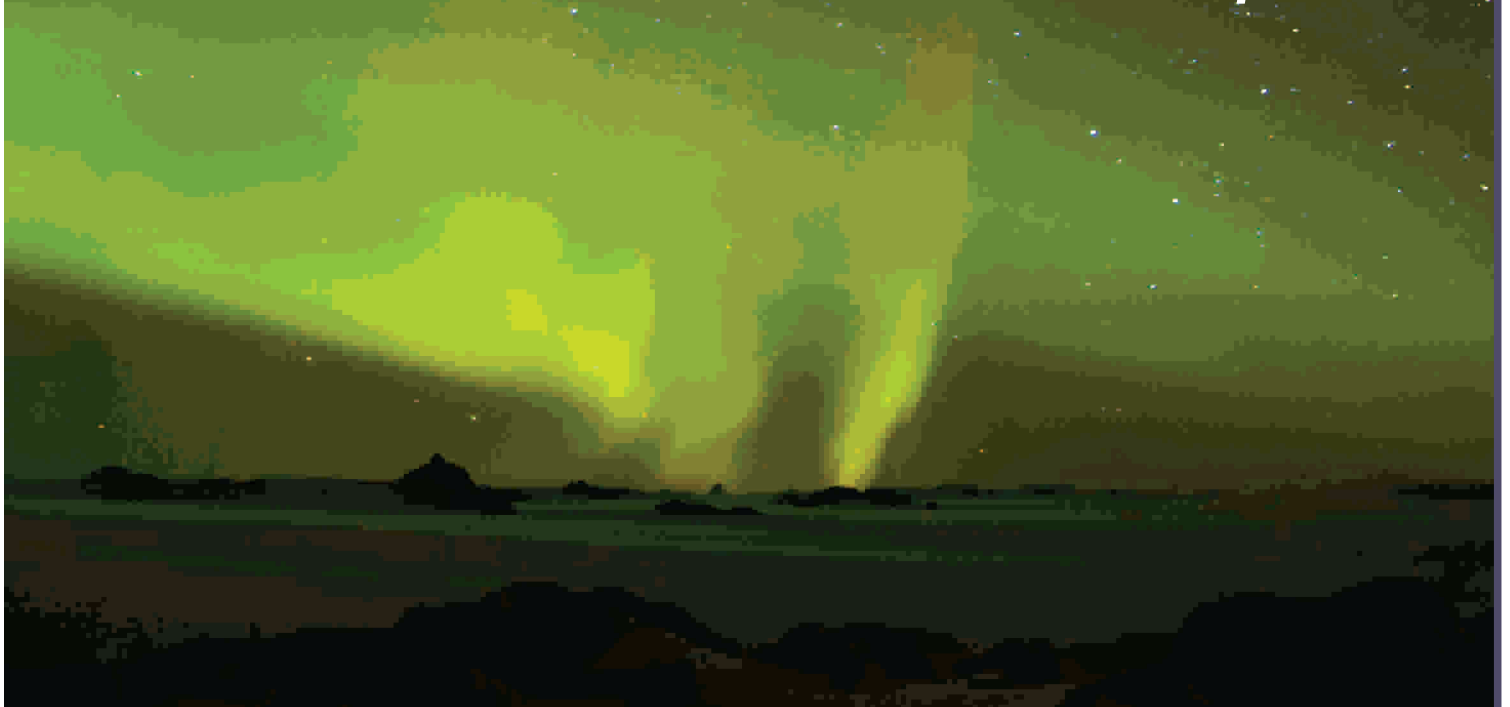
Our Awesome Sponsors

Happy Feet

What do you want?

Our Loved Ones

Stats & Sponsors

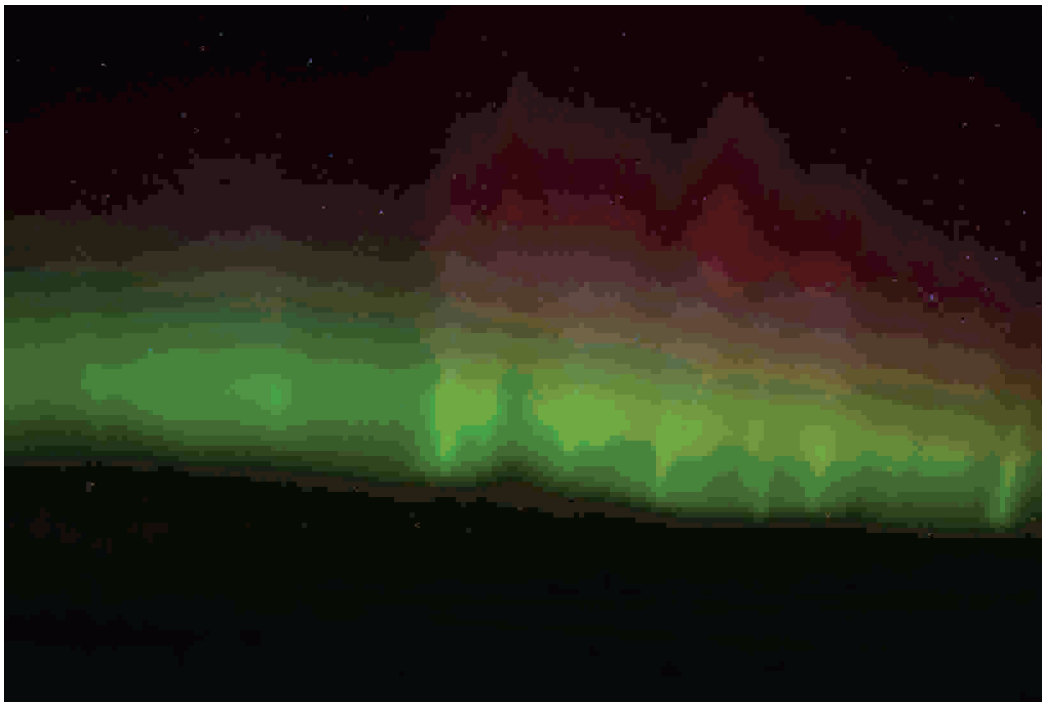
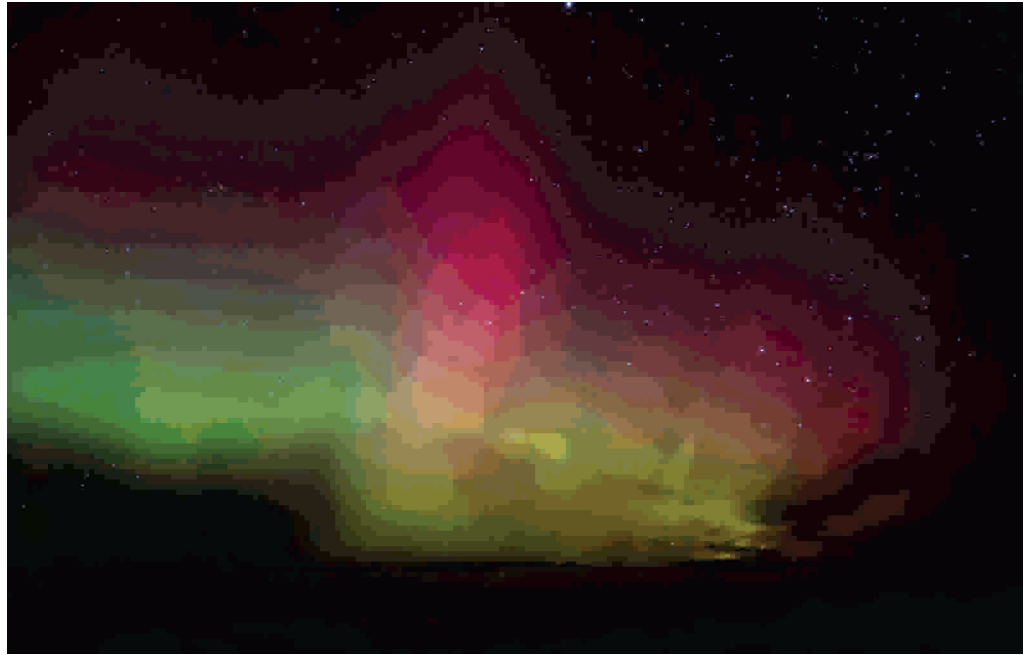


Aurora Australis

by Rob

Aurora australis, also known as the southern lights, or southern polar lights, is the southern hemisphere counterpart to the aurora borealis.

We tracked a M-Class solar flare occurring on the 10th of April for 3 days. Excitement mounted as the coronal mass ejection was predicted to impact the earth's magnetosphere sometime on the evening of the 13th of April. The clear skies and new moon predicted for that evening raised expectations even further.

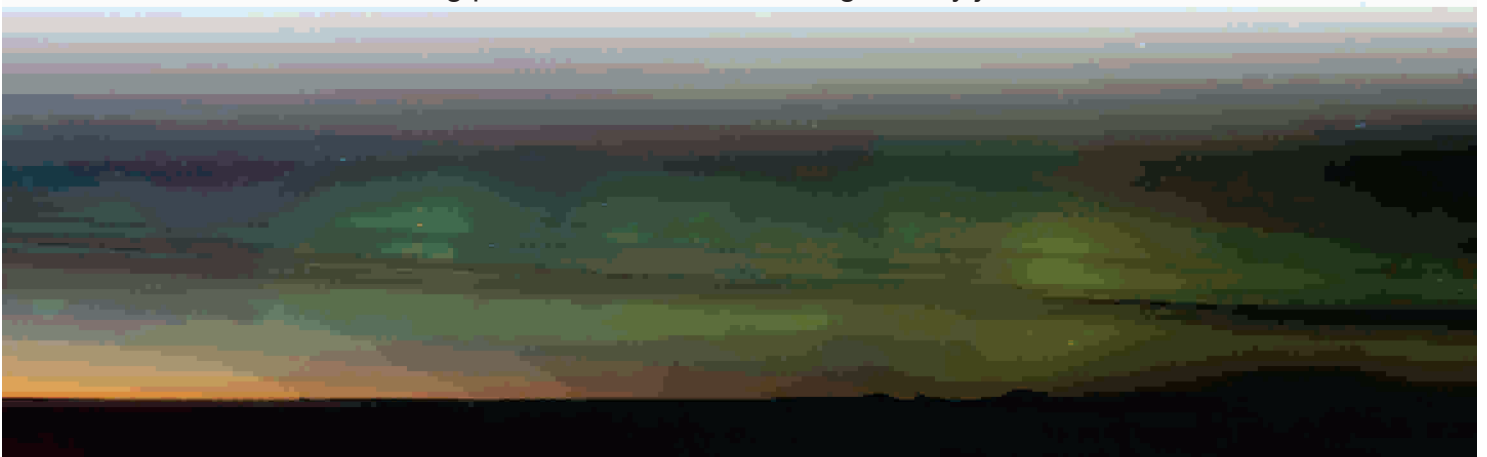


With outside temperatures well below -35, several of us dressed warmly and awaited the much anticipated aurora. The 1st impact occurred just after 23:10, with a bit of a lacklustre performance.

Shortly afterwards however we were treated to the best aurora display S52 had yet witnessed at the SANAE base. The display went on for most of the night, and we only called in quits when the sunrise started to light up the eastern horizon.

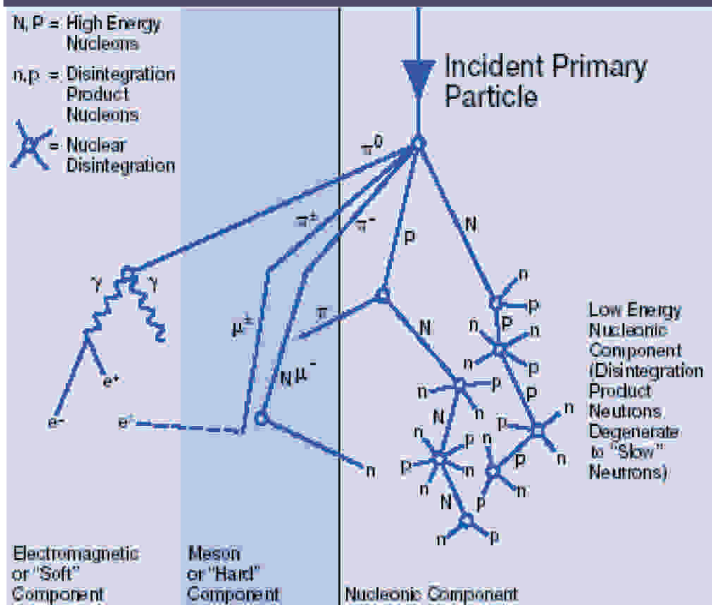
Long exposure photography by Rob.

A stunning photo with the Aurora filling the sky just before the break of dawn...



The Neutron Monitor

by Grethe

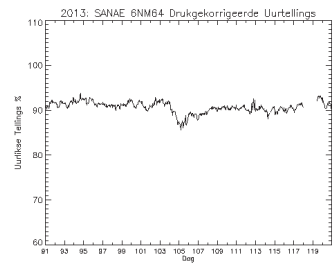
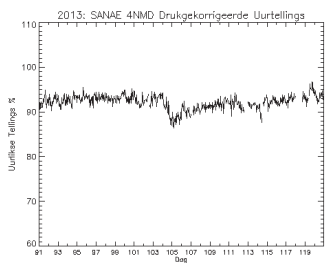


The Cosmic Ray Engineer, that would be me, is responsible for the Neutron Monitors. To understand how the Neutron Monitors work, we would probably have to start at the beginning.

What is a Cosmic Ray? Unfortunately when Cosmic Rays were first discovered, they were mistakenly called rays. They are actually high energy particles and should actually be called Cosmic Particles. Their origin is still unknown and they are believed to come from many sources. Their energies can be far greater than anything we can produce on earth with even our most advanced equipment.

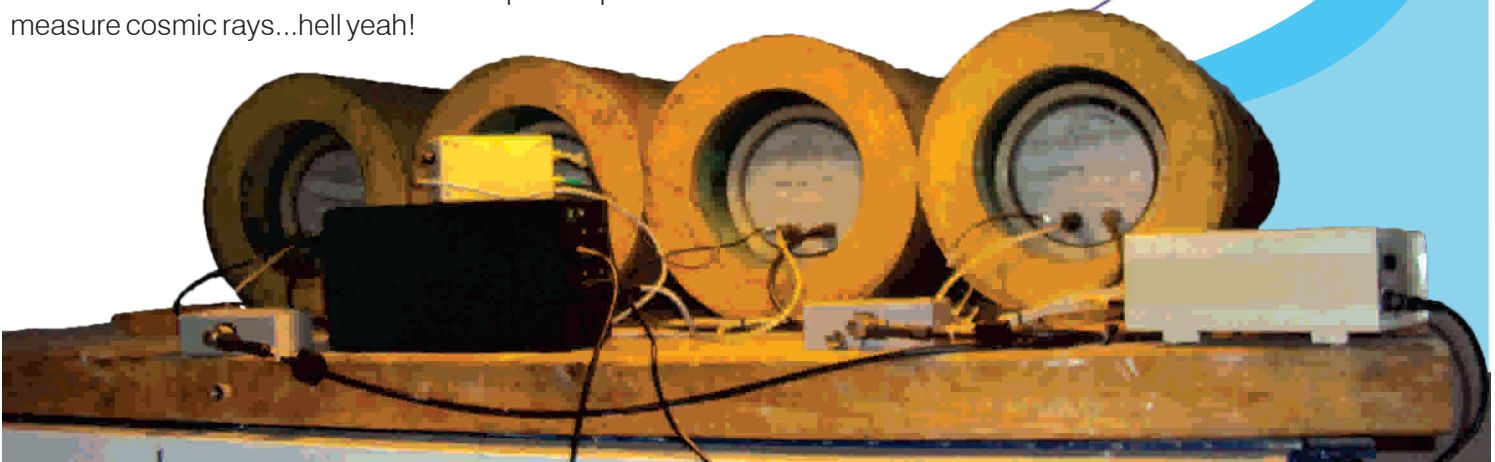
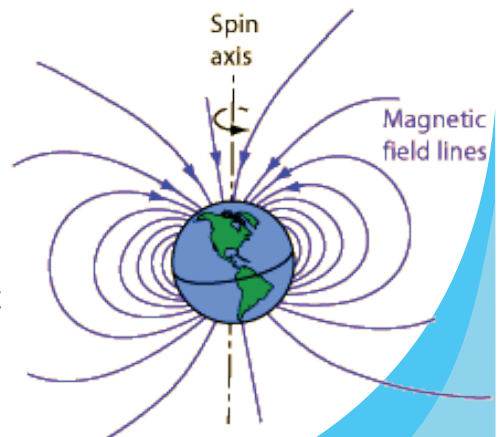
We can measure these high energy cosmic particles by measuring the secondary emissions caused by collisions. At SANAE we specifically measure the resulting high energy neutrons (N) as seen in the figure.

We have two neutron monitors; the first is 6 tubes located on a platform in the hangar in C-block. The second is a neutron moderated detector with 4 tubes located in a locked room in C-Block to keep it away from metal objects that could influence it. Each tube is filled with boron-tri-fluoride. Electronics interface with the tubes to detect pulses caused by incoming high energy neutron particles. We store the number of neutrons counted by the equipment and publish it to the Potchefstroom website (<http://www.nwu.ac.za/af/neutron-monitor-data>) for research purposes.



So why do this in Antarctica? Cosmic rays are affected by magnetic fields and cannot easily penetrate where the magnetic field runs parallel with the earth. In other words at the poles the magnetic field runs perpendicular with the earth, because of the dipole nature of the earth's magnetic field, and allows the particles to penetrate much easier. This means it is the optimal place to measure cosmic rays...hell yeah!

Factoid: The Earth's North Magnetic pole is, in fact, a south pole. (North poles on compasses point toward it.)



Watching the Crimson Sky

by Kgomotso

A summer gone, long and dull winter nights begin. Suddenly a beautiful display of color as the sky briefly turns bright crimson, giving hope and encouragement. In the horizon the dark of night and crimson red of sunset meet to form shades of rainbow like colors as the sun disappears into the darkness of the night. This constantly reminds me of how this place can quickly turn from a very beautiful to an unforgiving place. Nevertheless, a breath taking display of coloration as Mother Nature flaunts her flawless beauty.

Definitely we are privileged to have experienced such sights, it's an experience I'll take with me forever.



Keeping Fit

by Philip

For many of us, winter signifies the coming cold - in Antarctica it is the same, except "Winter" lasts 365 days of the year. As many of you know the cold also makes one very lazy; and want to eat more. This of course has undesired effects on your body, however humans turned out to be smart (although you have to wonder) and created gyms and exercise programmes to combat these undesired effects. At SANAE we also have a gym, some of the equipment of which can be seen on the next page.

Current utilisation of the equipment by the team:

Adam:	Spinning bike, climbing wall.
Rob:	Treadmill, skipping rope, dumbbell, barbell, bench, lats, ez-bar.
Philip:	Punching bag, spinning bike, dumbbell, barbell, bench, lats, skipping rope.
Wihann:	Punching bag, spinning bike, dumbbell, barbell, bench, lats, treadmill.
Craig:	Spinning bike, dumbbell, barbell, bench, lats, treadmill, skipping rope.
Grethe:	Rowing machine, barbell, dumbbell, bench, ez-bar, lats, treadmill.
Karabo:	Treadmill, barbell, dumbbell, bench
Pieter:	Treadmill
Kgomotso:	Treadmill



Gym Equipment at SANAE <<<



Punching bag: good upper body exercise...and quite fun.



Climbing wall: good for exercising your finger tips and Spiderman skills.



Pull-up bar: very good upper body exercise - but tough



Dumbbell: single handed version of the barbell



Rowing machine: good all round exercise...even when imagining you're on a lake



Skipping rope: simple and very effective way of getting fit



Spinning bikes: getting nowhere...fast



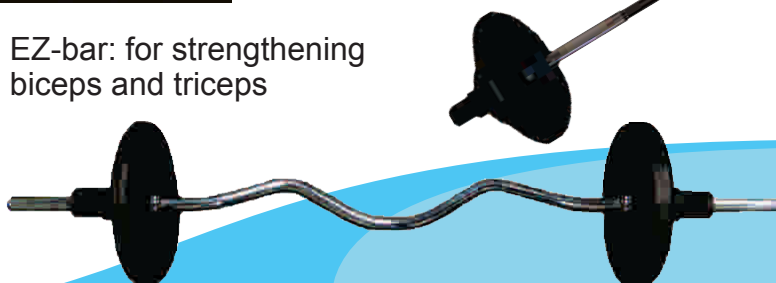
Bench: barbell and stand included



Lateral machine: great for upper body exercise

Barbell: predominantly used for squats and deadlifts

EZ-bar: for strengthening biceps and triceps



Treadmill: similar to the spinning bike, just slower



Our Awesome Sponsors

by Wihann

I want to talk about our amazing sponsors that we've got for the year.

We received lots of wine from some of the best wine estates in the country and probably in the world. We really appreciate it. Some of us are very keen wine drinkers. We got so much wine that we had to build a wine rack for it. So, Philip and I built one and fitted it into the bar. Now the wine has a fitting storage place.



Another sponsor and to me the best one of them all, is Monster Energy. Gerhard Koen, from Monster Energy in Cape Town, gave us a pallet of Monster Energy drink. It's a life saver. Since some of us are hitting the gym hard everyday, we need that energy burst. Even the old man, Craig, gyms with us younger guys and has to keep up, so he drinks this stuff like water. That is why he's in the gym for more than two hours a day. Poor man!



Unleash the Beast!

Monster Energy!

Please see the list of sponsors at the back of the newsletter. There are too many to name in this article, but we are deeply grateful to all of them!



Happy Feet ««

by Adam

Shoes in Antarctica are a bit different than back in the real world. It is more about comfort than fashion, so here is a review of our shoe preferences. I think Antarctica is one of the few places where you can wear slippers to work all day and know no one would think anything of it.

Safety Boot



Pros:

Tough,
Strong,
Safe,
Water/Chemical Resistant

Cons:

Unfashionable,
Sometimes Uncomfortable,
Water/Chemical Resistant (swamp foot)

Usage Level:



Crocs



Pros:

Comfortable,
Slip-on,
Warmish.

Cons:

VERY Unfashionable.

Usage Level:



Tekkies



Pros:

Comfortable,
Relatively Fashionable

Cons:

Unsafe,
Not Very Warm

Usage Level:



Flip-flops



Pros:

Tough,
Slip-on

Cons:

Unsafe,
Not Warm.

Usage Level:



Sheepskin Boots



Pros:

COMFORTABLE,
Slip-on,
Warm,
Fashion Statement

Cons:

Unsafe,
Sometimes Too Warm,
Fashion Statement,
Big.

Usage Level:



Leather Slippers



Pros:

Tough,
Slip-on,
Polish.

Cons:

Unsafe,
Not Warm

Usage Level:



FauxSheepskinBoots



Pros:

COMFORTABLE,
Slip-on,
Warm

Cons:

Unsafe

Usage Level:



Have you seen this man? ««

Public Service Announcement

Dangerous and armed with a pink sash, please report to Pretty Little Girls Association.



What do you want? ««

by Craig

This is an article to find out what different things we think we want once back in civilisation. I was sitting at the dinner table eating my usual bland breakfast which consists of weetbix and honey, and I began to wonder what would be the first thing I would want as the ship docks in Cape Town. Then the second thing I started to wonder, what would be the first thing I would like to eat? And finally I started to wonder, what would be the first thing I would want to do, once I had settled back into civilisation.

So I went round to some of my fellow team members and asked them the same questions that had me pondering at the dinner table.

Wihann:

1. Drive his bakkie
2. Portuguese chicken braai
3. Go on vacation



Adam:

1. Feel warm concrete
2. Vegetarian-thingy with humus
3. Ride his bicycle



Philip:

1. Feel the warm sand on the beach under foot
2. KFC
3. Visit friends and family and tell of our adventures

Pieter:

1. Look for a place to stay
2. Steak, salad and vegetables
3. 3 week vacation in Steelpoort



Rob:

1. Take a bath
2. Sushi and avocado salad
3. Australia trip

Grethe:

1. Party with friends and family
2. Sushi and avocado
3. Go swimming and lie in the sun

Karabo:

1. Buy a watch
2. Hot wings
3. Father and son outing

Craig:

1. See green grass and trees
2. Salad
3. Diving along the coast for 3 weeks

Kgmotso:

1. See his girlfriend
2. Fresh fruit salad
3. Go on vacation with his girlfriend

Clearly we all have different tastes, how these things might change in the upcoming 9 months, I cannot say, but I'm sure some people would find out closer to the time what is most important to them. Stay tuned to find out if things change...



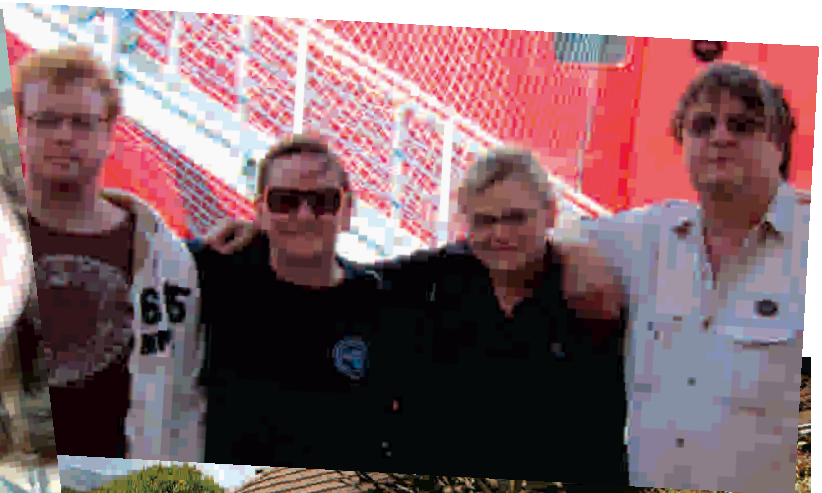
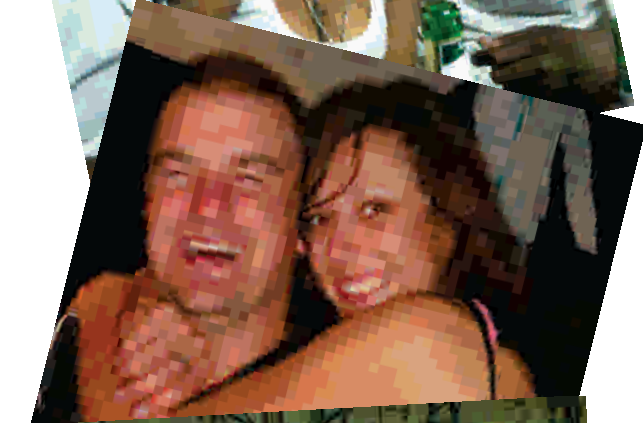
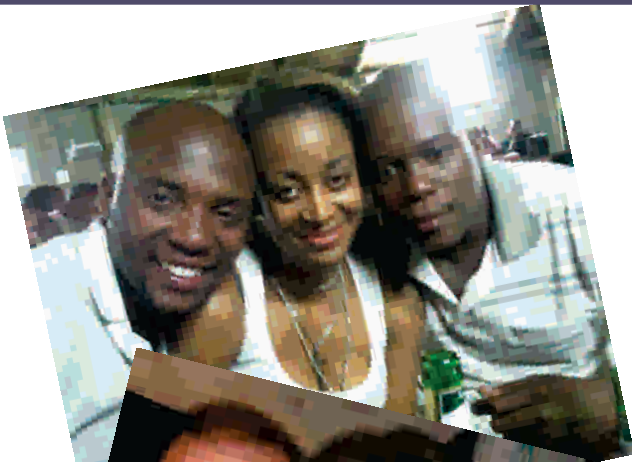
Our Loved Ones ««

by Karabo

Although SANAE is such an incredible place, it can never replace home. I must admit that the team is quite good at hiding their emotions regarding how they miss their families, we all know they do. A single phone call to a friend or family member can trigger all sorts of emotions and memories that will leave you with a very hefty phone bill.

I personally appreciate my loved ones far more than I would when I'm home; it is actually quite ironic how popular you become back home when you are not around. I guess it's true that you realize how much someone means to you only after they have left. The other day I got a call from an old friend I hadn't spoken to in years; she said she heard I was gone and worked tirelessly to find my contacts.

“One of the best feelings you can have while you are here is knowing you are dearly missed by people back home, that they actually long for your presence.” - Karabo



Weather Stats for April:

Temperature

Minimum: -28.6 °C (on 30/04)

Average: -18.1 °C

Maximum: -5.1 °C (on 07/04)

Pressure

Minimum: 862.2 hPa (on 03/04)

Average: 882.4 hPa

Maximum: 905.1 hPa (on 07/04)

Humidity

Minimum: 16% (on 10/04)

Average: 70%

Maximum: 91% (on 06/04)

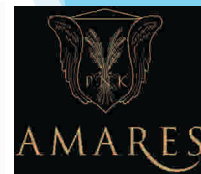
Wind Gust

Maximum: 33.6m/s (on 03/04)

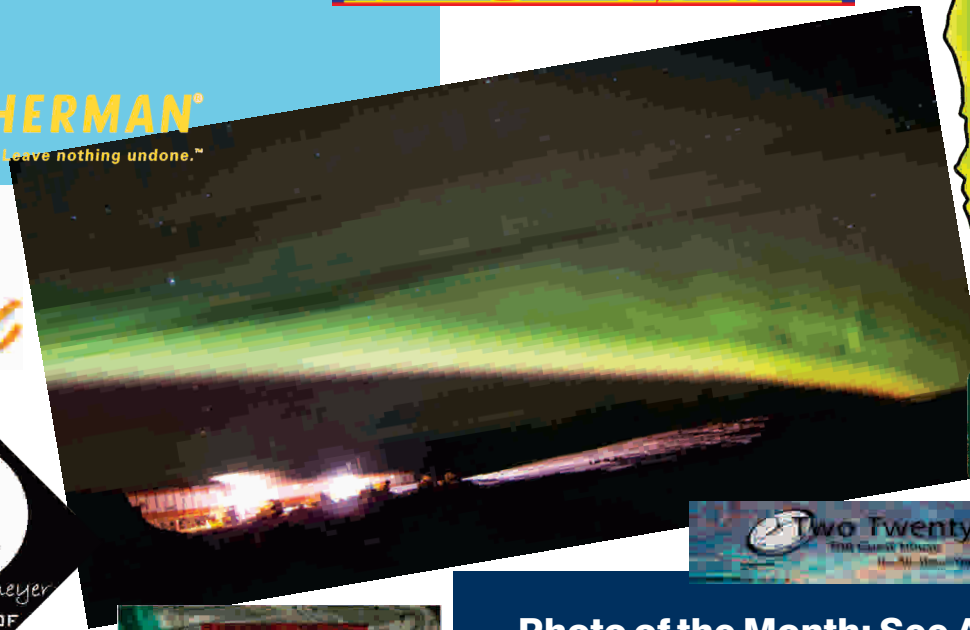
Average Daytime Length:

8 hours 1 min

Stats & Sponsors



Value Baking Supplies



Special Thanks to:

A. Zięba
G. Moriss



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MEERLUST

**Photo of the Month: See Above
Taken by Rob**

Quote of the month:

**"I love fishing, but I've never tried it."
- KG at dinner one night**

Movie of the month:

Transformers - all of them

Song of the month:

Chop Suey! - System of a Down

