

Marion Island newsletter

THE WANDERER

February 2016



FROM THE TEAM LEADERS OFFICE:



Hi,

Time seems to have crept up and caught up with our term on the island. When I look back at the calendar, it seems we have just learned enough about the island (newbies) and it's time to start preparing for the next takeover. We have just a month and a bit until the red taxi sounds its horn on Marion waters indicating the arrival of the famous SA Agulhas 2.

From my side, it has been a busy period with orders, medical and alike, counting of stock and suddenly there seems to be more empty tote bins in stores than before. The base has been our home away from home for 11 months now and one cannot leave the island without taking in the views from the heli-deck. The Tundra weather pattern has been forgiving during this month as we experienced almost windless days that tempted even the base paddies to venture off the cat walk. One could even take a stroll dressed in summer clothes with the glorious weather that passed by in the past month.

The mountain peaks visible towards Katedraal have lost their white snow-caps as the weather warmed up the temperatures. The Wandering Albatrosses have sat on their nests again as they prepare for the next generation. I have just heard that the Elephant seals are nowhere to be spotted on the island again signalling a change of season.

We have been lucky to experience a warmer Antarctic Summer compared to previous team but unlucky as well as not to see many ice-bergs as compared to past reports.

The team has been healthy and well, bracing themselves with buckets and mops for a duel with the "Deep Clean Skivvy" which will soon enter the arena. Wish us all the luck!!

Thank you again to all our avid readers for your loyal support and encouragement during the past months.

Cheers and all the best until next month!

A few words from the editor

Dear newsletter reader,

February was a great time on the island! There were many warm and windless sunny days. Stress levels decreased as the amount of fieldwork to be done was dialled back a notch or two. Walks weren't in terrible weather and neither were they rushed, except for maybe one or two round island trips. We truly had an awesome time on the island this month. The team members even had time to help out other members with their field work resulting in many enjoyable memories that will last a life time.

I cannot take full credit for this edition. My co-birder, Janine Versteegh, helped out a lot with this issue. The articles titled "300 days", "I should Aceana'd coming" and "Heaven is a place on earth" is all her doing. Thanks Janine for all the help ☺ The issue wouldn't have looked so great without you!

I hope you enjoy this issue!

Regards,

Tegan Carpenter-Kling





300 DAYS



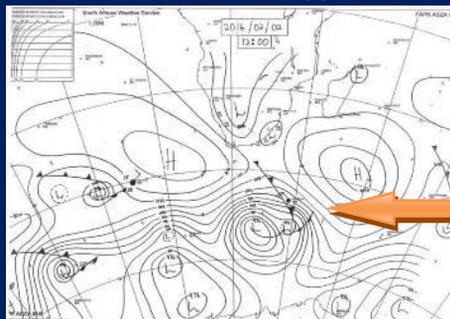
To celebrate 300 days on the island the birders threw a party for the rest of the team. The party kicked off with a swim in a make shift swimming pool that was carefully placed out of the wind. Then there were quizzes and birder work related games such as: reading rings with binocs, blowing a feather across the room and walking threu a maze of bottles to retrieve a "penguin" on the other side.



ABOUT THE WEATHER



Seasons have come and passed; each with its changes in the weather and summer is almost over. We've had our fair share of warm days this summer with every one of the summer months reaching more than ten days with temperatures above 10°C. December recorded the warmest at 18°C so far. With so many warm days, the island has also suffered as some days the mires seemed drier. February is so far the driest with a maximum of four consecutive days without any rain which followed after the highest rainfall ever recorded during this expedition so far; just over 30mm per hour. This rainfall was the result of a cold front that brought with it a thunderstorm on the 2nd, a rear occurrence on the island which brings excitement whenever it happens.



Synoptic Chart: Showing a cold front about to pass at Marion Island (the area pointed by the arrow)



5 minute data graph showing rainfall in millimeters

This excitement which brought many streams to life, some with amazing waterfalls, was followed by the four days mentioned earlier. Then we recorded 0.2mm in 24 hours, followed by 3 days with no rainfall. This continued until the 14th, then a few millimeters in the next 2 days which were followed by another 3 days without rain.

There were a few cold days some time after the middle of the month with the interior part of the island experiencing some showers of snow and snow pellets. One of these happened two days after a lot of rain that fell on Saturday the 20th. Being out in the field, I enjoyed the warm temperatures, visited Good Hope beach at Grey-Headed.

Monday morning we woke up to some huge Cumulus clouds (Cumulus Congestus) with the high areas of the hills white with snow. Less than 10 minutes of leaving Watertunnel hut, the clouds stirred above us then snow pellets came rushing down on us. But as soon as we were high up around Karoo Kop which happens to be cold and windy on most occasions, it cleared and started getting warmer. About half an hour later we had to take off our rain gear which also protects against the wind. Then we got to Base and those who were in the field on this side of the island told us how cold they felt on this side.

This being my last article for the newsletter, I can't help it but think about how much I'll miss the island weather, especially the snow and snow pellets. The convective clouds at home are fascinating but the thunderstorms associated with them (Cumulonimbus Capillatus) are not something one is looking forward to.

And some more news from the weather side, actually, some very good news. Bernhard Diebolt (InterMet Africa) mentioned during takeover last year when our hydrogen generator couldn't be fixed that he wouldn't mind bringing the required spares with his own yacht (Diel). It sounded like a really cool idea but I guess I didn't think it could happen. Then he actually did. After him and his crew arrived on the island, the next day our technical team started working on the generator. It took hard work, dedication and patience to get the machine up and running. Ewald, our Communications Engineer with the help of Riaan Lourens (SAWS), in Irene, Pretoria, continued to make finer adjustments to ensure that it is fully functional without errors that occurred after it was initially fixed. Because of the dedication and hard work from everyone involved, we are able to do upper air ascends again after a very long time.

Well, some may not know what I am talking about. The hydrogen generator is the machine that produces/generate hydrogen gas. The gas is stored in a tank and we use it to inflate the balloons from which we attach a Radiosonde; a device used to measure atmospheric pressure, temperature, humidity, dew point, wind direction and wind speed.



Hydrogen gas storage tank

Hydrogen generator



Inflated balloon

Radiosonde

Upper air ascends are launched twice a day, 10:30 GMT and 23:00 GMT, I guess the other way round strictly speaking in local time (02:00 and 13:30) which is GMT+3. I guess this is me signing out. I hope you'll enjoy the news from the few more newsletters from M72.

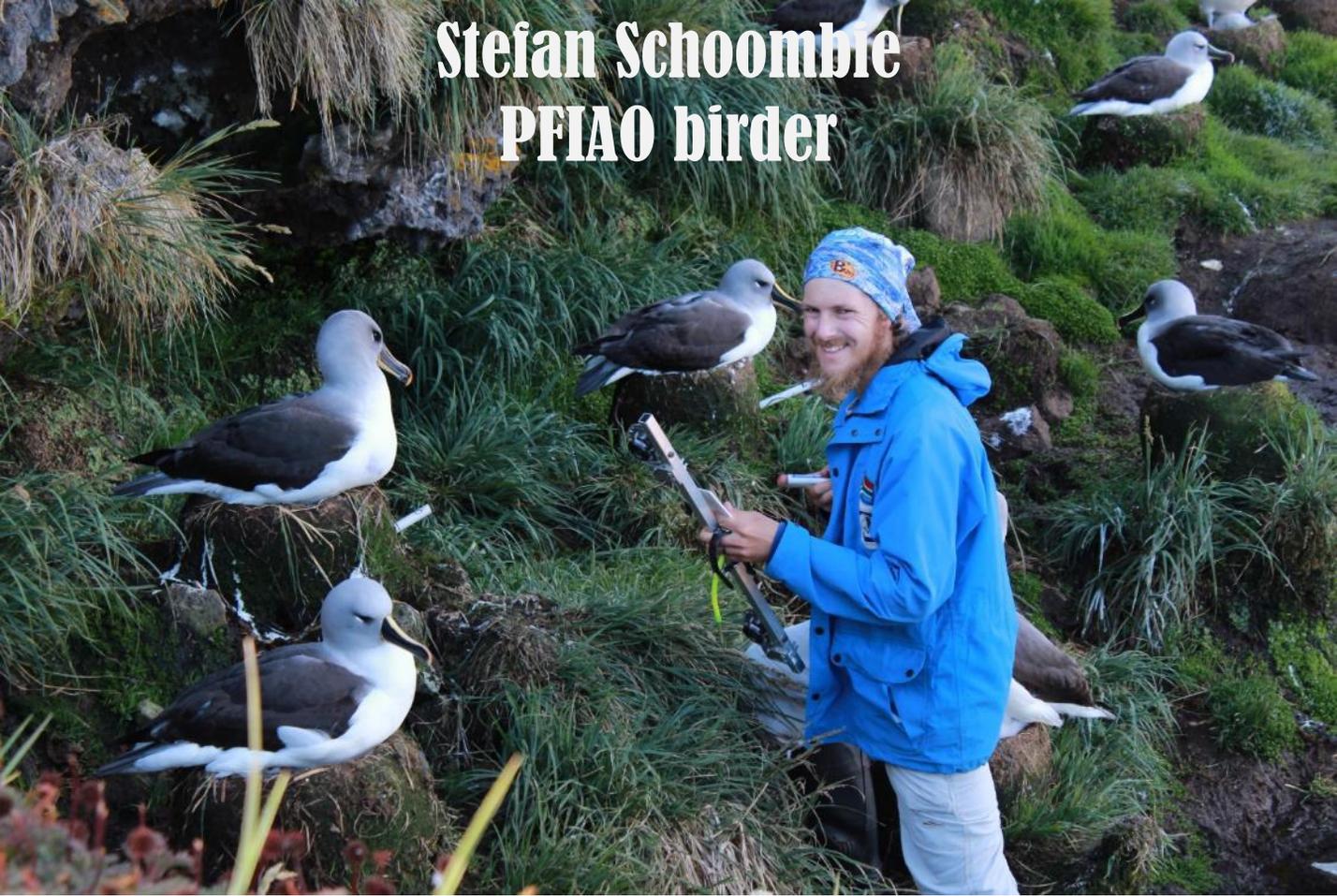
Nkoane Mathabatha
Assistant Meteorologist



MEET THE BIRDER!



Stefan Schoombie PFIAO birder



Why did you apply to come to the island?

"After being here for a year with the M70 expedition I did not get enough of this place and had to experience it again."

You're a PFIAO birder. What does that mean and what type of work do you do?

"PFIAO is short for the Percy FitzPatrick Institute of African Ornithology based at the University of Cape Town. Our work focusses on the four species of albatross and several petrel species that breed on the island. "

What is your favourite and least favourite type of bird on the island and why?

"Favourite is definitely the Sooty Albatross, I did my MSc project on them and they are all round entertainers, flying gracefully and landing awkwardly. Least favourite is Sub-Antarctic Skuas, they are way too noisy and have no sense of personal space."

What has been your best experience on the island?

"Difficult question.... The whole island experience is the best!"

What has been your toughest challenge on the island?

"Not to get used to the beautiful and fascinating things we see every day!"

Name three things on your bucket list for your stay on Marion Island

"Walk the interior on a clear day, Get up close with Killer whales, See Elephant seal bulls fighting"

What do you miss most about home?

"The three F's – Family, friends and fruit!"

Would you apply for another over-wintering expedition on the island and why?

"Not straight away, but who knows what the future will hold. A year is just that bit too long."

If the ship could bring you a few things from home, what would they be?

"Wine gums and jelly beans!"

Why do you think it is better to be a birder rather than a sealer?

"I don't think... I know! Working with a variety of species makes life much more interesting and we don't usually (exceptions are made for one birder) smell as bad as a working sealer."

Janine Versteegh

PFIOA birder



Why did you apply to come to the island?

"Why not? Honestly, I've wanted to come here since I first heard about it in high school. Although then I just thought it was a meteorological station. When I found out about all the other research I wanted to come even more."

You're a PFIOA birder. What does that mean and what type of work do you do?

"Our research mainly involves monitoring the four albatross species and three of the petrel species that breed on the island. We monitor the breeding success of these species and some of the work forms part of long term studies that stretch as far back as the 1980's. "

What is your favourite and least favourite type of bird on the island and why?

"Favourite – Northern Giant Petrels (NGP's), compared to the others they were the easiest to work with. They're so peculiar, but very entertaining.

Least favourite – Grey-headed Albatross; although they are the prettiest they are very mean spirited animals. They hate everyone! They barely tolerate their partners... King Penguins are a close second, because they are disgusting!"

What has been your best experience on the island?

"There are two equal ones: handling albatrosses and the many awesome killer whale sightings!"

What has been your toughest challenge on the island?

"Dealing with the mice. I hate them when they kill albatross chicks, but I can't bring myself to kill them... It's not their fault; they're just trying to survive. If anything it's our fault because humans brought them here in the first place!"

Name three things on your bucket list for your stay on Marion Island

"See killer whales hunting, See the ice plateau, Summit a few more peaks"

What do you miss most about home?

"Besides friends and family, Hunters draught and salad. And my mom's olives!"

Would you apply for another over-wintering expedition on the island and why?

"If I could bring some of my friends, maybe... Ask me again in a year when I'm longing for a hike across Karookop."

If the ship could bring you a few things from home, what would they be?

"Gluten free snacks and pasta from Woolworths!!!"

Why do you think it is better to be a birder rather than a sealer?

"Variety! We work with many different species, each one with its own unique behaviour. We walk everywhere, not just along the beaches. Also, we smell better 😊😊"



Kate du Toit

Oceans and Coasts birder

Why did you apply to come to the island?

"I had some friends who were on the island previously who encouraged me to apply. It has been a once in a lifetime experience and I am so glad to have had the opportunity to work in such a beautiful place."

You're a O.C. birder .What does that mean and what type of work do you do?

"Our work focuses mainly on the four penguin species present on the island, namely, king, macaroni, rockhopper and gentoo penguin. We monitor these species for breeding success as well as population counts around the island. Every month we do a round island census where we count and monitor other bird species such as the sub-Antarctic skuas, kelp gulls, Antarctic and Kerguelen terns, southern giant petrels and Crozet shags. "

What is your favourite and least favourite type of bird on the island and why?

"I don't really have a favourite bird on the island, however the Wandering Albatross has to be one of the most beautiful birds I have ever seen, the sheer size of them is incredible! My least favourite bird is a moulting King penguin, the smell that thousands of moulting Kings creates, is one that cannot easily be forgotten!"

What has been your best experience on the island?

"Being able to work with so many different bird species, and being in a place where walking/hiking is your only mode of transport. "

What has been your toughest challenge on the island?

"Being so far away from home and loved ones. Another challenge is making sure we all keep safe as there are no hospitals here. "

Name three things on your bucket list for your stay on Marion Island

"Visit Katedraal hut, Explore the interior, Walk to Ships Cove on a full moon evening"

What do you miss most about home?

"Family, friends and definitely healthy fresh fruit and vegetables! "

Would you apply for another over-wintering expedition on the island and why?

"No I don't think I would, not because I have not loved my year here, but rather because we have had such an amazing team and I think it would be a completely different experience coming to the island with new people.....I think the saying 'once in a lifetime' pretty much sums it up."

If the ship could bring you a few things from home, what would they be?

"My family would be nice;) Other than that, everything I need is right here."

Why do you think it is better to be a birder rather than a sealer?

"Well that's easy, because birders have the most awesome job, we get to work on so many different bird species and see so much of the island! And.....BIRDERS RULE!"

Oyena Masiko

Oceans and Coasts birder



Why did you apply to come to the island?

"I have a great passion for working with animals and doing it in one of SAs most pristine environments just seemed unreal."

You're a O.C. birder. What does that mean and what type of work do you do?

"O&C – part of a long-term research and monitoring programme by the Oceans and Coasts Directorate on seabirds."

What is your favourite and least favourite type of bird on the island and why?

"Favourite: GENTOO...they are just so adorable, their chicks, the way they walk, just everything about them ♥♥"

"Least favourite: SKUA...I'm just not particularly fond of them.""

What has been your best experience on the island?

"Oh my word, there has been so many that I cannot even single out one. Everything is just so different and beautiful here and you see something overwhelming almost every time you step foot off the catwalk."

What has been your toughest challenge on the island?

"Having to walk Devil's Footprint every month. I swear that part of the island just hates me."

Name three things on your bucket list for your stay on Marion Island

"Have fun, Have fun, Have fun"

What do you miss most about home?

"My mom's hugs ☺"

Would you apply for another over-wintering expedition on the island and why?

"Yes, but maybe after a few more years. I had a really amazing time this year and I have learnt so much and have grown as an individual."

If the ship could bring you a few things from home, what would they be?

"Anything, anything at all...just something packed from home."

Why do you think it is better to be a birder rather than a sealer?

"Because birders are both hardcore and awesome sauce!"



Tegan Carpenter-Kling

NMMU birder

Why did you apply to come to the island?

"I love this place! I have already spent a year here but decided I definitely had not had enough. Even though a year is a long time it is not long enough to experience everything this place has to offer"

You're a NMMU birder. What does that mean and what type of work do you do?

"I am the first of my kind. We will be a race of birders that specialize in collecting data to help further our understanding of habitat utilization and overlap of the albatrosses, penguins, giant petrels and fur seals which breed on the island"

What is your favourite and least favourite type of bird on the island and why?

"Definitely, without a second thought, my favourite birds are the giant petrels! They are ridiculous! I love the pre-historic call, dominance displays, fighting and, best of all, the face first bathing technique they have! My least favourite is the king penguins. They are not very nice birds."

What has been your best experience on the island?

"There are so many but any warm and dry day takes the cake."

What has been your toughest challenge on the island?

"First, keeping focused enough to finish my MSc... there is a lot to distract you here and second, my "busy season"... she it was busy!"

Name three things on your bucket list for your stay on Marion Island

"Nope I'm done. There are many things I would still like to do, like see more killer whales, retrieve some of my devices that haven't come back yet and go to the interior but overall this year (and M70) has been a really great experience and I wouldn't change it for the world"

What do you miss most about home?

"A lot! Haha, definitely family and friends, my car, an ocean you can swim in!!! And fast internet"

Would you apply for another over-wintering expedition on the island and why?

"No but that is what I said last time. Ask me again in a year"

If the ship could bring you a few things from home, what would they be?

"Wine, new clothes, simba chips!!"

Why do you think it is better to be a birder rather than a sealer?

"Um...duh. There are so many reasons but off the top of my head, if the birds bite I can still walk away."

A pole called DORIS

About 400 meters the southwest of the Marion Island base there exists a small white building with a small white pole next to it. Most visitors know this building by its common name – the Doris Hut, but few know the origin and meaning behind it.

To the space operations industry, however, DORIS the pole is a sophisticated piece of equipment vital for observations from space of Earth's constantly changing environment. DORIS is short for Determination of Orbit and Integrating Radiopositioning by Satellite. The DORIS system of terrestrial transmitters and satellite borne receivers, was designed and developed by the French Space Agency CNES, the French Space Geodesy Group and the National Geographic Institute of France (IGN).

The objective of the DORIS system is to finely determine the positions of satellites orbits and to precisely locate terrestrial transmitters. On top of the pole behind the hut is one of a network of more than 60 radio transmitters of which the signals are detected by matching DORIS receivers on board satellites used for precision orbitography, which is a crucial aspect of altimetry applications, ranging from measuring ocean levels from space to observing the movements of a volcano. Doris data has also become valuable in geophysics, helping researchers to measure continental drift, monitor geophysical deformations, and determine the rotation and gravity parameters of Earth. SANSa is the host of two of these intelligent poles, the other being near the base of the Magaliesberg in Gauteng, at SANSa's space operations Hartebeesthoek facility.



SANSA has a close collaboration with the designers of the DORIS system, which also provides valuable ionospheric information in the form of total electron content measurements and ionospheric scintillation. Dr Pierre Cilliers and a team from SANSA Space Science upgraded the DORIS system on Marion Island in April 2010 and fitted an Iridium radio communication antenna to the DORIS pole which allows its French operators to remotely monitor the health of the transmitter, and adjust system settings.

The biggest physical task for the DORIS transmitter antenna is to stand still in a fixed position. This is not so easy in soil which naturally expands and contracts with temperature changes, so the pole on which the DORIS transmitter stands consists of steel pipe filled with cement and sunk into a hole drilled into the bedrock. The steel pipe, perforated for the first four metres, has a 10 mm thick wall and a diameter of 280 mm. Once it was sunk into the six

The Doppler Effect and Malaysian flight MH370

The DORIS system is based on the Doppler Effect. Austrian physicist Christian Doppler theorised that a quantifiable effect is observed when a source of light or sound waves is moving in relation to a stationary observer. This principle is now used in a variety of location-orientated applications. Recently, Inmarsat 4-F1 communications satellite engineers identified two paths that the missing Malaysian flight MH370 could possibly have taken by using the Doppler Effect and data from their satellite.

metre deep hole, it was filled with concrete and vibrated to let the concrete seep through the perforations, binding to the bedrock wall. Thus, an incredibly stable platform was created for the transmitter, which allows satellites with DORIS receivers on board to precisely determine their orbits and precisely locate terrestrial stations.

The DORIS transmitter antennas, on poles just like this one around the world, send signals from their fixed locations to satellites in low Earth orbits.

The national mapping and surveyor agency in France, the IGN, uses data from DORIS to contribute to the international reference system, and a DORIS beacon on the Dorsal Glacier in East Antarctica is providing data on the movement of ice in this remote location.



I should Acaena'd coming

Love it or loathe it, Marion Island's only indigenous woody plant always elicits some emotion. *Acaena magellanica* can be found in drainage lines, riparian areas or just any area that has a large amount of water flowing underneath.



It's infamous ability to attach itself to clothing comes from white barbs at the end of the flowers, which helps the plant disperse seeds over large distances. While native on Marion Island, it is located on most of the sub-Antarctic islands and even South America!

So the next time you find yourself covered in Acaena, desperately trying to remove every piece of those itchy spikes, take a moment to remember that you can blame the albatrosses for bringing it here...



The Goats of Marion Island

By John Cooper, Antarctic Legacy of South Africa, Stellenbosch University

Current team members may well know that in the past domestic sheep were sent to the island as a source of fresh meat in the days before deep freezes. The first sheep (five Merinos in lamb) were sent in 1948 and the last batch went south in 1969. The last sheep seen alive – at Piew Crag – was in April 1973. Sheep bones can be seen to the present day on the slopes of Karroo Kop and near Mesrug, and I saw a skull at the erstwhile Laekop Hut in the 1980s, showing how far some of them had wandered from the Base at Transvaal Cove. Less well known is that domestic goats were also sent to Marion Island.

The year of introduction of goats to Marion is as yet unknown to the Antarctic Legacy of South Africa, nor is it known how many introductions were made and of how many animals. The earliest definite record to hand is of two animals photographed by Olof A. van Zyl, Meteorologist with the Fifteenth Overwintering team (M15) over April 1958 to March 1959. The last, and only other definite record is of a photo, again of two goats, by Christo Wolfaardt, Meteorologist with M18 from April 1961 to March 1962. ALSA's caption to this photograph states the goats were taken south to provide fresh milk, so his picture might well be of a nanny and its kid. Goat milk would have been an interesting change from the "Sterovita" sterilized milk in glass bottles that was the usual source in the early years of Marion's occupation.

In a 1961 article Hannes La Grange of the then South African Weather Bureau wrote "A few years ago goats were introduced to the island and due to the damages to the buildings they were chased away. The present relief party [assumed to be M18] has found the meat a real delicacy." La Grange also remarked that the goats had become feral and spread to the western side of the island, their hooves becoming long and flat, presumably due lack of wear in the wet terrestrial habitat.

Christo Wolfaardt's Team Leader, Piet A. Le Roux in a personal communication published in 1985 stated that the goats "were slaughtered in 1961 with the exception of one individual which managed to escape". This suggests to me that there were more than two individuals present on the island at the time.

The skull depicted here was given to me by Deon Muller (M47 Cat Hunter) who collected it at Piew Crag in April 1991. It is now safely in the Social History Collections Department of the Iziko Museums of South Africa. None of the sheep or goats in photos in the ALSA collection has visible horns, as the skull does. So is it from a sheep or a goat? A positive ID is underway.

It seems likely that a small number of milch goats was taken to Marion around 1959 and by 1961 they had either run away or been eaten. To learn more ALSA needs to trace the elusive annual reports of Team Leaders in government archives, assuming such still exist from Marion's early days.



Two goats at Marion Island, photograph by Olof A. van Zyl, Meteorologist, M15, April 1958 - March 1959.
Persons in the photo not as yet identified



Tethered and penned goats (a nanny and its kid?) at Marion Island, photograph by Christo Wolfaardt, Meteorologist, M18, April 1961 - March 1962



Skull collected by Deon Muller (M47 Cat Hunter) in April 1991 at Piew Crag

Heaven is a place on earth

We often brag to people back home about how breathtaking this island can be. Here are some of M72's favourite views around Marion.

Photos by Everyone



View from from Piew Crags

Likes : Ewald (Radio Tec.)



Goney Plain from Long Ridge

Likes : Nkoane (Metkassie)



View from the top of the Amphitheatre

Likes : Kate (O&C Birder), Stefan (PFIAO Birder)

Kaalkoppie

Likes : Abu (Geo), Janine (PFIAO Birder)



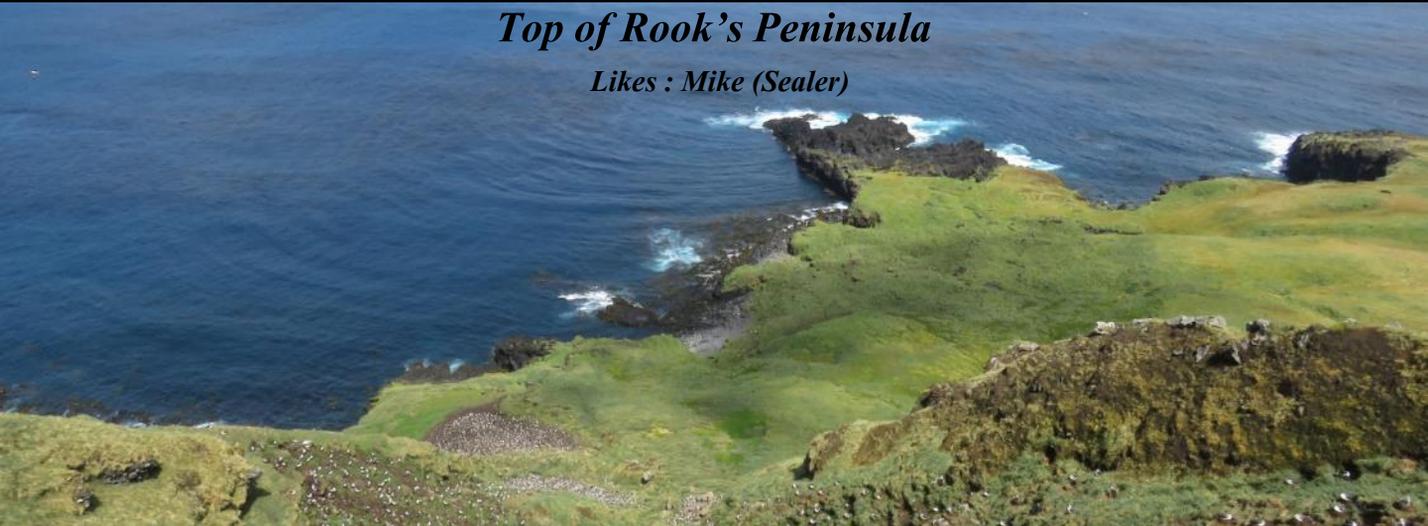
Chess Castle Bay

*Likes : Mpho (ECO),
Jerry (Metkassie)*



Top of Rook's Peninsula

Likes : Mike (Sealer)



View from the Mixed Pickle hut toilet

Likes : Nasipi (Assistant ECO)





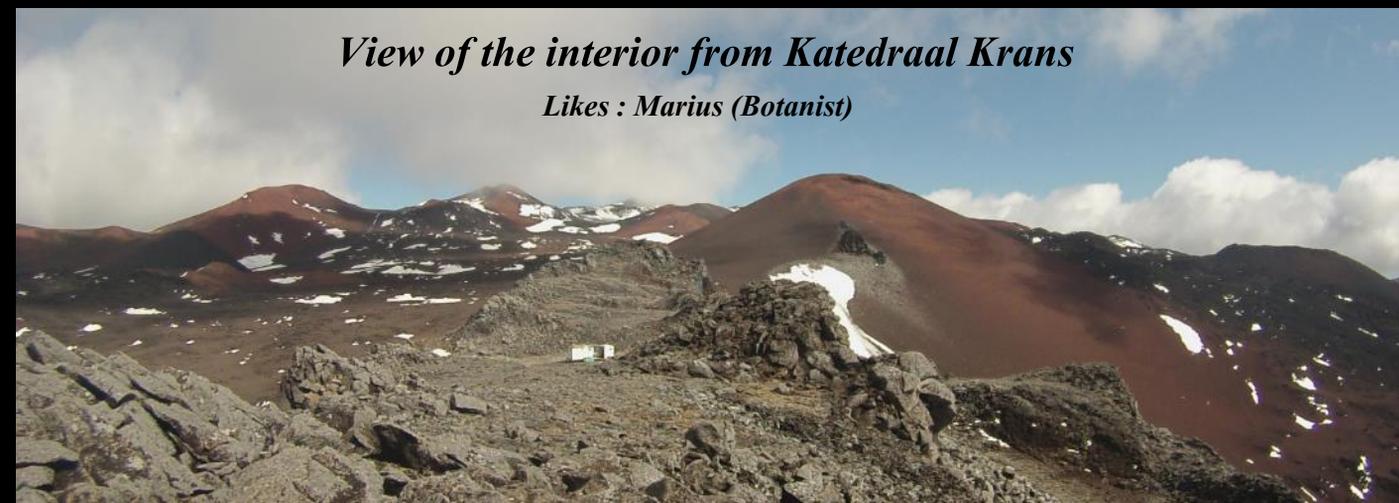
Ships Cove



*Likes : Benoit (Sealer),
Oyena (O&C Birder)*

View of the interior from Katedraal Krans

Likes : Marius (Botanist)



Amphitheatre from Kleinkoppie

Likes : Sherwin (Medic), Moses (Base Eng.)



View of the coast from Bob Rand peak

Likes : Pierre (SANSA Engineer)

AJ (Diesel Mechanic)





*View of the South coast
from Karookop*

*Likes : Tegan (NMMU
Birder)*



Triegaartd Bay

*Likes : John (Killer
whaler/Sealer)*



Boulders Beach

*Likes : Boy (Senior
Metkassie)*

FRIENDS LIKE THESE...



Fur seal and an elephant seal... although this relationship seems one sided.

A Gazella fur seal pup and a kelp gull chick...now this seems mutual.



Mike

PHOTO CORNER







Stefan



John



Kate



John



Nkoane



Stefan



John

