

SOUTH AFRICAN AGENCY FOR SCIENCE AND TECHNOLOGY
ADVANCEMENT

RADIO SERIES

PROGRAMME ONE – ANTARCTICA

SAASTA SIGNATURE TUNE. FADE OUT.

Nicky: Hi there, it's Nicky and Themba T and we're back with another episode in our science and technology radio series, called The Innovation Connection. Thanks to your campus radio deejay for giving us time in the studio!

Themba: Hola, hola! Hey guys, this month The Innovation Connection is heading all the way down south and exploring Antarctica!

Nicky: Did you say Antarctica?

Themba: That's right Nicky, in this programme we're looking at the interesting and very important work being done by South Africans researchers and scientists on the continent of Antarctica and in the sub-Antarctic region as a whole. So, take a listen as we bring you information about what's being done, and we'll also let you know just what it takes to get involved in this kind of work.

VOX POP INTERLUDE MUSIC. FADE UNDER AND HOLD.

BK: For me, it's always been a boyhood dream of going to Antarctica. But then actually being there, it's so much more than any dream or imagination that I could have come up with! It felt like I was a little kid again! You wake up every morning and you can get all excited because you know you're going to see and find something interesting... Something's coming; something new and interesting is coming!

IA: Everyone calls it 'life in the freezer', and it is. When you go by ship, it's a gradual progression, you see the water getting colder, you start seeing a little bit of ice on the ocean, it's not sudden, like one day you're there...it's very gradual, so the ice starts forming around you, you start seeing icebergs, you start seeing more marine life and then you see this sheer wall of white, it's white ice, and it just hits you! It's all white, and there's only so much ice you can see, but it's the whole experience of going and to just see this very, very different world...

NH: Something that is quite unique about Antarctica is that there is this ocean that surrounds it on all sides, called the Southern Ocean. We got down into the Southern Ocean, it's a very stormy place, and we had some big seas. What's so amazing is that the ocean is so big down there, and there's no land in the way so when the wind blows, it really can blow a lot. It just builds up, you look at the sea and there's this big

wave coming towards the ship and the whole ship rises up, and then the whole ship goes down again. It's just these huge mountains of sea.

VOX POP INTERLUDE MUSIC. FADE OUT.

Nicky: Brrrr! Sounds like an amazing, but very cold place, huh Themba?!

Themba: Well, like you heard Isabelle Ansorge say, they call it 'life in the freezer'!

Nicky & Themba: (laugh)

Nicky: Well, not only that, but just listening to how big those waves are in the Southern Ocean; it sounds as though there's a whole different life going on down there? I'd love to see it someday!

Themba: Yes, Nicky, but you know, not just *anyone* can go. South Africa is a signatory to the Antarctic Treaty, and *that* Treaty is in place to make sure that only scientific work and experiments are being done on Antarctica and in the region around it. So, it's not like you can go on holiday there! But hang one, here's someone who can explain this all so much better than I can.

HV: My name is Henry Valentine. My official title is director, Antarctica and Islands, so in a nutshell what I'm doing is I'm managing the Antarctic Programme. South Africa was one of the 12 original signatories to the Treaty; it was signed in 1959, so this year the Treaty will be 50 years old. Today there are 48 countries that are members of the Treaty. How did the Treaty come to be? There was this extensive, international scientific programme, and the countries that were part of that multi-national research programme, said, "We co-operate so well together, why don't we formalise it? And make a declaration that this white continent, Antarctica, should always be used for scientific purposes, only." And that's basically the heart or the foundation of the Treaty. So South Africa has this commitment that to be a member of the Treaty, you have to do world-accepted research and science and you have to have a presence there. To have a presence there, you have to have an infrastructure, or a base. Now, SANAP stands for the South African National Antarctic Programme, and it's everybody that's involved in the Antarctic Programme, whether you're a scientist, or grant-holder, or the students you work with, so students are part of SANAP, our ship and ship operators, the helicopter company providing

helicopter support that's all SANAP. SANAP is the all-inclusive entity, not only the science, but the logistics support and everything that goes with it.

Nicky: Wow, Themba, I had no idea our fellow South Africans are doing work in Antarctica, this is amazing.

Themba: And we're not only doing research on the continent itself, but also in the area that scientists call the sub-Antarctic region. Isabelle Anson, she's an oceanographer from the University of Cape Town, she can tell you more...

IA: South Africa's got three bases. One is on the Prince Edward Islands, which are South African islands in the Indian Ocean and they're halfway to Antarctica. Then we've got another base on Gough Island which is in the Atlantic Ocean, it actually belongs to the British, but they've allowed the South African weather service to set up a base there, and then South Africa has just built a brand new base at Marion Island, it's going to be the number one sub-Antarctic base in the world. Those are our sub-Antarctic stations, and so the Agulhas goes down there every year to allow people to study these areas, so you have people who are studying birds, they look at the geology, the rocks, you've got the weather systems, the oceanography, you've got a wide range of science going on. And then the last base is the Antarctic base, and it's about an hour's flight in from the coastline or the ice-shelf and it sits right up on this plateau and that is really where there is more weather science being done and space science, so when we want to find out more about our space physics, that's more where the hub of the research that's going on in the Southern Ocean. So, you have people who 'over-winter', and so the Agulhas goes down there every year to allow people to study these areas.

Nicky: I've heard this term before, 'over-winter', that's when people go for a year right?

Themba: That's right!

Nicky: But what's this thing called the Agulhas?

Themba: Mmmm...Let's see if Henry can explain...

HV: The SA Agulhas is a polar ship, she's in a very good condition, but last year she was 30 years old and she will last for x-number of years, no doubt about that, but like

any other technology, we need to keep up. So we're all looking forward to the replacement, and the replacement will be more of a scientific platform than the current ship. The current ship was never designed as a research vessel; it was a supply vessel, so the new ship will be custom-built with a dual purpose, supply on the one hand and being a scientific platform on the other. The process is well under way. So three years down the line we will have a new ship.

Themba: Nicky, the new ship could be used by teams from all around the world! Listen...

IA: It's going to be the best research ice-breaker in the world and the idea will be to use it for South African research but also open it up for the Germans, the British, to the other big institutes that want to hire her and to do that you've got to make sure you've got the right tools in place. It's got to be modern, got have all the facilities, got to have all the bells and whistles you need for your science.

Nicky: Okay, so now I know what the SA Agulhas is, but Themba, what is it like in Antarctica when you get there?

Themba: Well, Nicky, do you remember Brett Kuyper? He is a student who had a chance to visit the base camp on the continent for his research...

BK: It's a full-on base, which is about 200 hundred metres long and about 45 metres wide; people are mostly transported by helicopter from the coastline, which takes in the order of about an hour or so. We were fortunate enough, just after New Year's Day, to get up onto the ice shelf. So the ice shelf where the ship is docked is about 40metres above sea level and we were just looking out on this flat plain and for as far as the eye can see, it's just white. But you can almost see every bit of detail because the air is so clean. It was a fantastic growth experience for me; I guess a great feeling of achievement that I've managed to get there.

Nicky: Themba, I think this is where I want to be, it sounds like a place so untouched, like Brett says, pristine...

Themba: Yes, it definitely is, and the research and experiments being conducted there are so very important for us to understand our earth and how it works, a whole

lot better. Guys, you all have to tune in to our next programme where we'll tell you more about the different types of people and the more about the different work being done on Antarctica and in the sub-Antarctic region.

Nicky: And, we'll let you know more about what you should be studying and what it takes to get you to Antarctica one day!

Themba: Be sure to tune in next time...

Nicky & Themba: 'Bye!!!

SIGNATURE TUNE. FADE IN AND HOLD TILL END.

IA: Antarctica, it really is an awesome place, that first time that I went south and to experience the change in sea and the change in environment, you'll never forget and I encourage all the students, if you have a chance, just to go, because it is life changing. It's very difficult to describe to people, but it's just to suddenly see this white mass in front of you, it's something you'll never forget.

HV: I think if there's something South Africans can be really proud of, that's our Antarctic involvement. We were one of 12 countries that signed the treaty, so we can say we're a founder member of the treaty. The current team in Antarctic, we call them SANAE – 47, which is the 47th team to over-winter. So this is the 47th year that we have over-wintering teams. Germany, the biggest economy in the European Union, they celebrated 2 years ago, 25 years in Antarctica, same with India, India celebrated 21 years the other day, so as far as South Africa is concerned, from day one, from the signing of the Treaty, South Africa played a significant role in Antarctica.