



# Gough Bunting

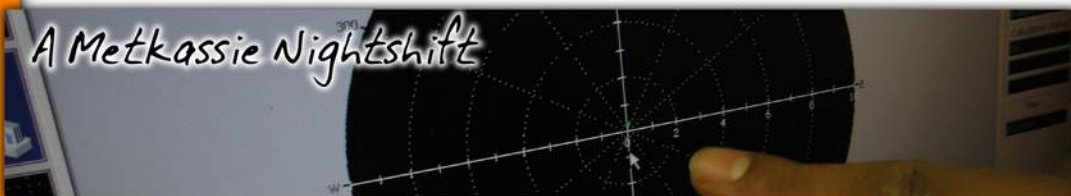


DECEMBER 2013

Christmas on Gough Island



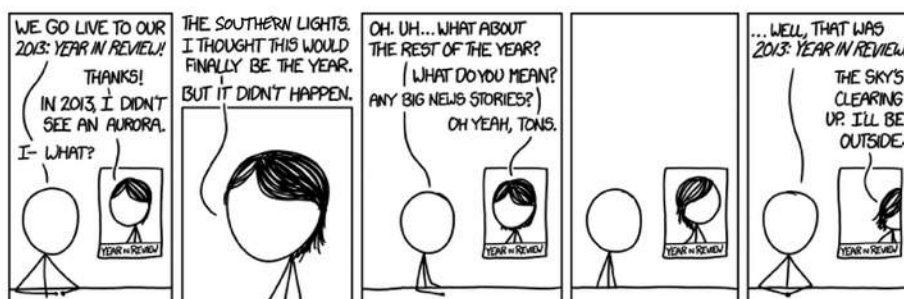
A Metkassie Nightshift



What is this "Upper Air" business



Remembering



Courtesy of:

xkcd.com



# Christmas on Gough Island

Good day family and friends back in my motherland

I hope that everyone is doing well and had a wonderful Christmas and new year. I want to wish everyone a wonderful and prosperous new year. I hope that your hopes and dreams come true this 2014.

News from Gough Island: Julian Grace

I had a wonderful December on Gough Island. We celebrated the birthday of Christ our Lord and we said goodbye to 2013 and hello to 2014, a year full of opportunities. We also had to wave our great leader goodbye. Former president of S.A. Mr Nelson Mandela.

The Gough 59 team took pictures on Madiba funeral day to show respect



I went off with Bani to weigh penguin pups. It was a brilliant experience for me. I have never had the opportunity to witness penguins like I did that day. Here is a few pictures of that day



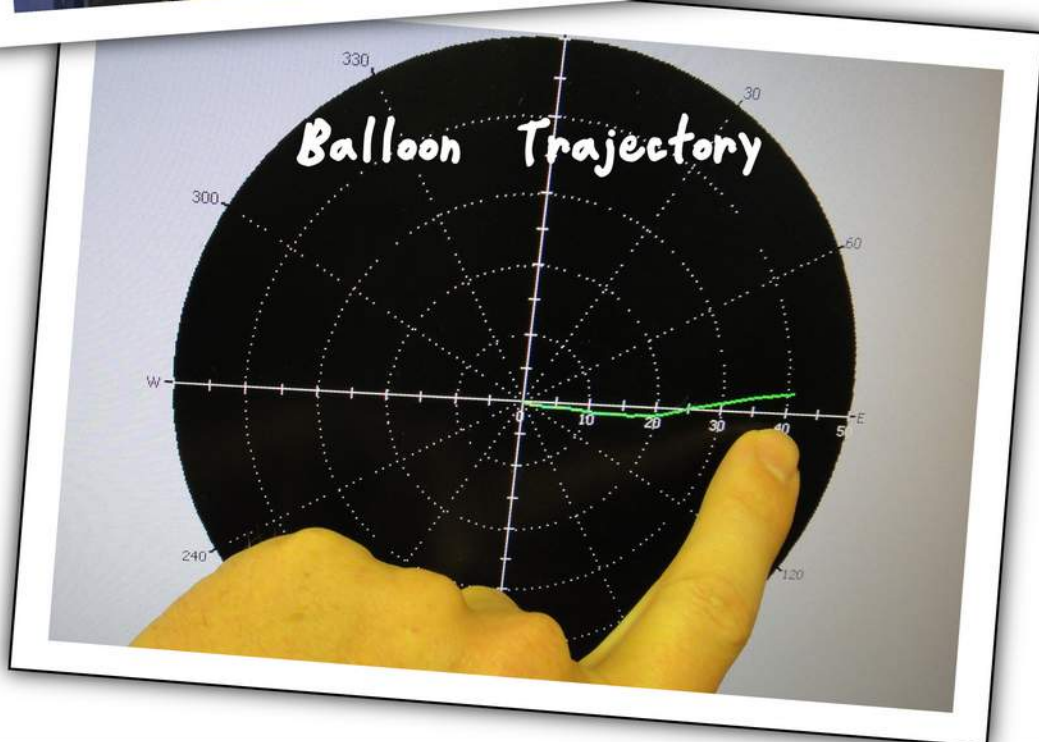
On Christmas day we had a wonderful Christmas lunch.





## A Metkassie Nightshift- Julian

The nightshift is different from the dayshift. During the day we do hourly synops whereas during the night we only do the synop every three hours. The night shift starts at 1800Z (20h00SAST). This is when I do my first synop of the night. I will monitor the weather during the period until the next synop which is at 2100Z (23h00SAST). The upper air follows at 2300Z (01h00SAST). I go outside and do a observation for my upper air. I then make my way to the upper air room, where I will proceed to do my upper air ascent. The upper ascent usually takes between an hour to two hours. I will monitor the upper until it is done and then send the data to Pretoria where they use it for forecasts. At 0000Z (02h00SAST) ,I do my second to last synop before I knock off. At 0300Z (0500SAST) I do my final synop for the nightshift and than I am off to bed. This is how a typical night shift is on Gough Island

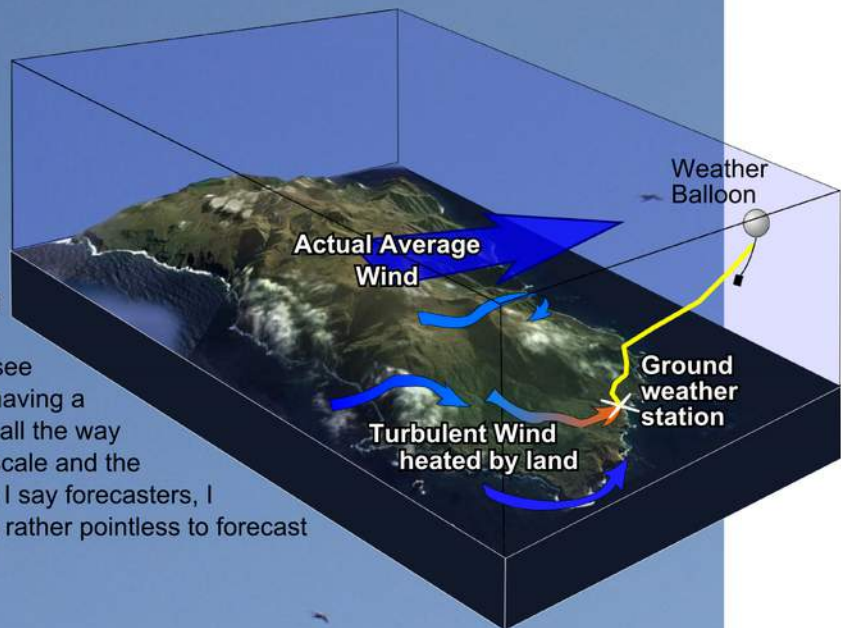




## What is this "Upper-Air" business?

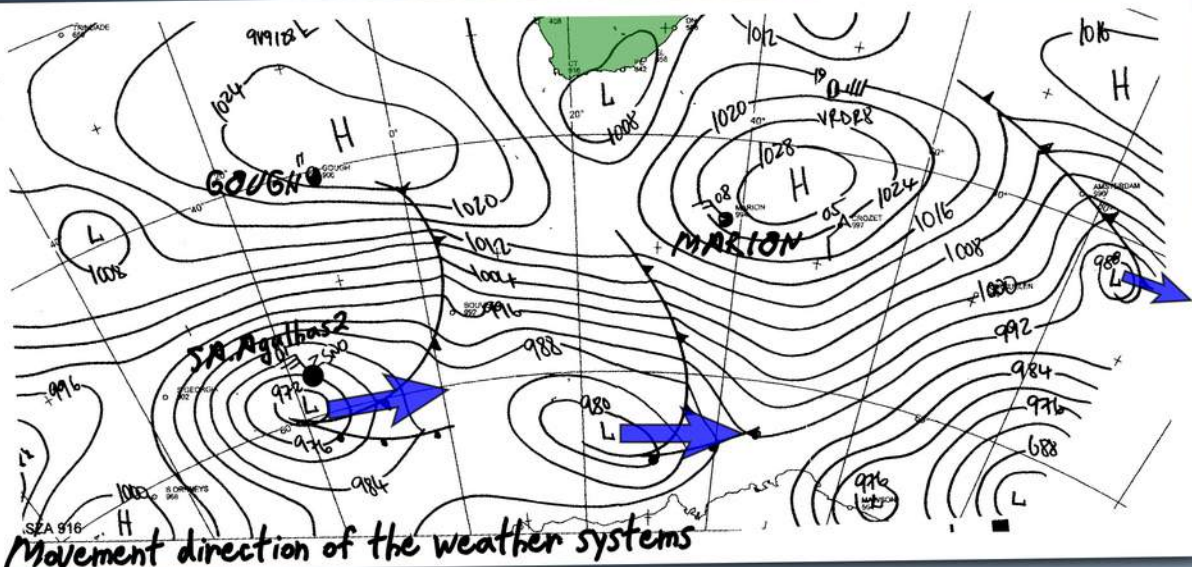
It is a technical term for a measurement the meteorologists do here. It is in essence a measurement of what is happening in the air, from the ground all the way to above the clouds.

It gives the weather-people a slice on information of exactly what is happening in the air at any height. Be it Wind speed, direction, temperature humidity, pressure, really every measurement they would do at a normal weather station on the ground. Now compare it to the normal information they get from a ground station. The ground station is fixed at 1 altitude and is affected by nearby buildings and trees. Add to that the affects mountains can have and you will start to see the value of the upper-air measurement. Its like having a stack of weather stations, one ontop of the other, all the way up to 15km high. It can therefore show both the scale and the intensity of a local weather event. Of course when I say forecasters, I mean the forecasters in South Africa. It would be rather pointless to forecast a storm which is happening right here right now.



Why then do upper-air on Gough? Why not elsewhere? Simple, all the weather systems (ie. coldfronts, cyclones, rain etc) which pass over Gough invariably head for South Africa. You could say Gough is right in the path of oncoming storms. Doing the measurement here would warn CapeTown of any severe storms heading its way.

I can almost hear someone saying "...But hangon. Cape Town's rain comes with the North Westerly wind, not from the wind which blows from gough." Yes, you are right, but the weather systems don't move because the wind blows them along, the wind blows because there are weather systems in the area. The wind just blows inside and between the various weather systems. For complicated reasons the wind in Capetown starts off as a NW wind then changes to SW as the storm moves past.





What do you need to make a delicious batch of upper air data? It is a very simple recipe, which takes between 90 to 120 minutes to prepare. You will need:



1x Latex Balloon  
(approx 1.5m diameter)



200mm string



1x Radiosonde  
(with fresh batteries)



$\pm 2m^3$  Hydrogen gas



1x Desktop PC



1x 400 MHz antenna  
(beam steerable)



1x Ground calibration  
chamber (Oven)



1x Specialized  
Instrumentation PC  
with a 400 MHz  
radio receiver inside.



Take one Latex balloon, add Hydrogren gas.  
Inflate until firm and light.  
(300 grms lifting force will do niceley.)



Prepare the radio sonde by placing it into a temperature  
& humidity controlled oven. Plug it in and switch it on.

(Use the radio link to measure whether the sonde is working.)

Bake until the sonde displays the same data as on the oven dial.





Remove it from the oven.  
Add batteries and let it rest outside  
in the cool air to obtain gps fix.



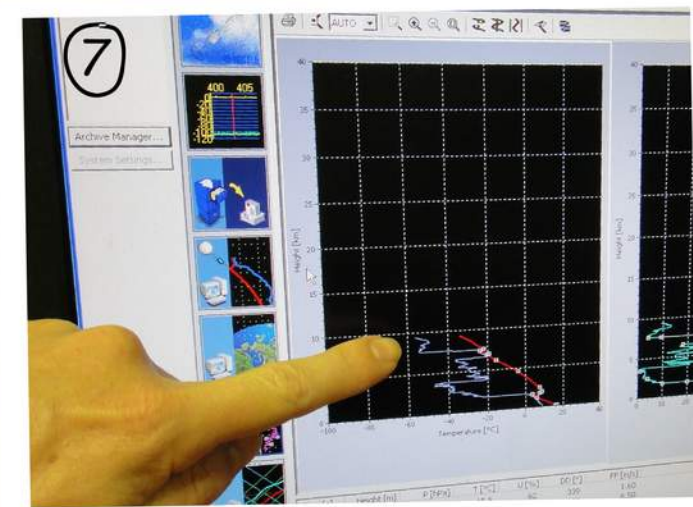
The balloon should be about ready now.



Decorate the balloon with  
the fully rested radiosonde.



Take outside and toss.  
Allow to rise.



Proceed indoors to the monitoring PC and  
monitor the progress.

If it fails to rise or if radio sonde goes  
silent; phone Pretoria weather office to  
get permission to do another batch.

After about 120 minutes you should have  
fresh batch of steaming hot Upper-air  
data.

Send to Pretoria head-office.  
Repeat twice, daily.

Enjoy the weather.  
- Johan H



## Remembering

The month of December was a mournful time for everyone around the world. I believe we at Gough island shared those mournful moments with every South African and people around the globe.

On the day of the 5th until the 16th of December we as a team memorize every event which lead to our freedom as a nation from apartheid. The flag was on halfmast until the 17th of December 2013. The Gough 59 picture included is our tribute to this event. This picture is an indication of reconciliation and unity amongst all races.

We are a rainbow nation.  
Bless the Lord.

A Message of hope from the G59 Teamleader.  
-Steven Wellman



*Nelson Rolihlahla Mandela*  
*18 July 1918 – 5 December 2013*





## Climate Stats: December 2013



### Pressure

|                 |            |
|-----------------|------------|
| Maximum         | 1023.1 hPa |
| Average Maximum | 1012.6 hPa |
| Average         | 1008.8 hPa |
| Average Minimum | 999.7 hPa  |
| Minimum         | 991.6 hPa  |



### Temperature

|                 |         |
|-----------------|---------|
| Maximum         | 22.8 °C |
| Average Maximum | 18.0 °C |
| Average         | 14.7 °C |
| Average Minimum | 11.4 °C |
| Minimum         | 8.6 °C  |



### Humidity

|         |      |
|---------|------|
| Maximum | 95 % |
| Average | 77 % |
| Minimum | 28 % |



### Wind

|              |                        |
|--------------|------------------------|
| Maximum Gust | 36.8 m/s<br>(132 km/h) |
|--------------|------------------------|



### Rainfall

|                      |          |
|----------------------|----------|
| Total                | 138.0 mm |
| Highest in 24 hrs    | 29.8 mm  |
| Total days with rain | 21 days  |
| Total days >1mm rain | 16 days  |



### Sunshine

|                         |         |
|-------------------------|---------|
| Total hours of sunshine | 183 hrs |
|-------------------------|---------|

Weather data compiled by Julian Grace

## Gough 59 team members:

Bani van der Merwe - Field Assist. (dep. Teamleader)

Ben Dilley - Field Assistant

Delia Davies - Field Assistant

Johan Hoffman - Radiotech

Julian Grace - Snr. Meteorologist

Pathiswa Kedama - Meteorologist

Fanie "Steven" Wellman - Diesel Mech (Teamleader)

Zach Bokaba - Medic

Zanele Mngomezulu - Meteorologist

Gerard de Jong - Radiotech (G58)

Jan Bradley - Field Assistant (Sagina Project)

Series of the Month:



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