

2017

# Annual weather report - Beli



Thomas van Steenis

Chimbo Foundation

1/4/2017

## Table of contents

Introduction.....	3
1. Temperatures.....	4
2. Rainfall.....	7
3. Humidity.....	9

## **Introduction**

This report contains an overview of the weather in Beli, Guinea-Bissau. The data from 2015 and 2016 are collected and compared in graphic overviews. Additionally, conclusions were made.

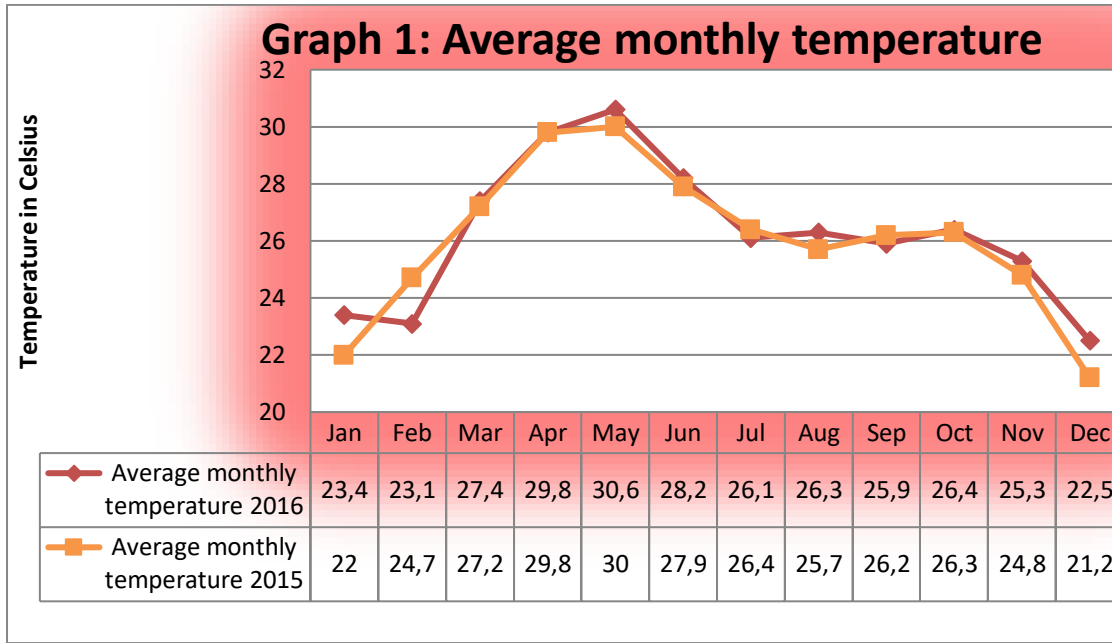
Temperatures, rainfall and humidity are the main focus points and are presented in an overview per month.

Out of all the data collected, some parts are missing. Overall, the changes will be minimal, but on a smaller scale it can make serious differences which can result into taking false conclusions. Take in consideration that the following data is missing:

- January 2015 misses a bit more than 11 days (01/01/2015 till 12/01/2015).
- May 2015 misses approximately 7 days (14/05/2015 till 21/05/2015).
- September 2015 misses more than 1 day (16/09/2015).
- From April till July, September and October 2015, all miss (a couple of) midnight data (0:00h).
- January 2016 misses a bit more than 3 days (01/01/2016 till 04/01/2016).

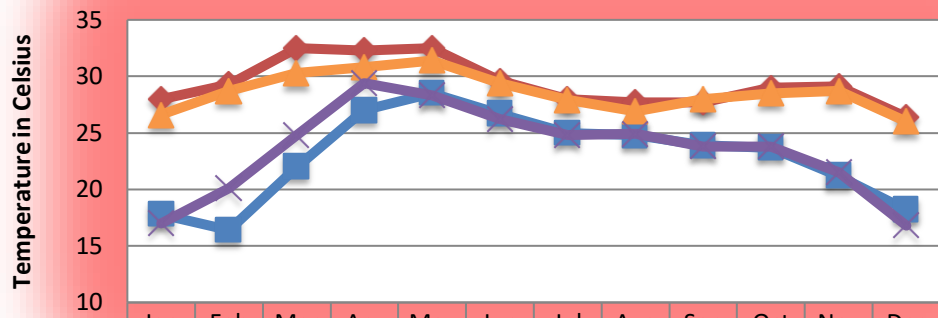
## 1. Temperatures

Graph 1 shows the average monthly temperature of both 2015 and 2016. Differences are small, but noticeable, especially towards the “winter” period. January 2015 was 1.4 degrees colder overall than January 2016. The same counts for December 2015, which was 1.3 degrees colder than December 2015. Over the whole period, 2015 seems to have a smoother trend line, whereas 2016 shows a decrease in temperature (strangely) towards February for example which boosts up in March.



Graph 2 shows the average monthly day and night temperature of both 2015 and 2016. From June on, the differences between 2015 and 2016 are minimal. About specifically February, March and April can be said that the temperatures in 2016 were more extreme. It shows that the nights in these months were quite a bit colder on average, but the average day temperature was higher than 2015.

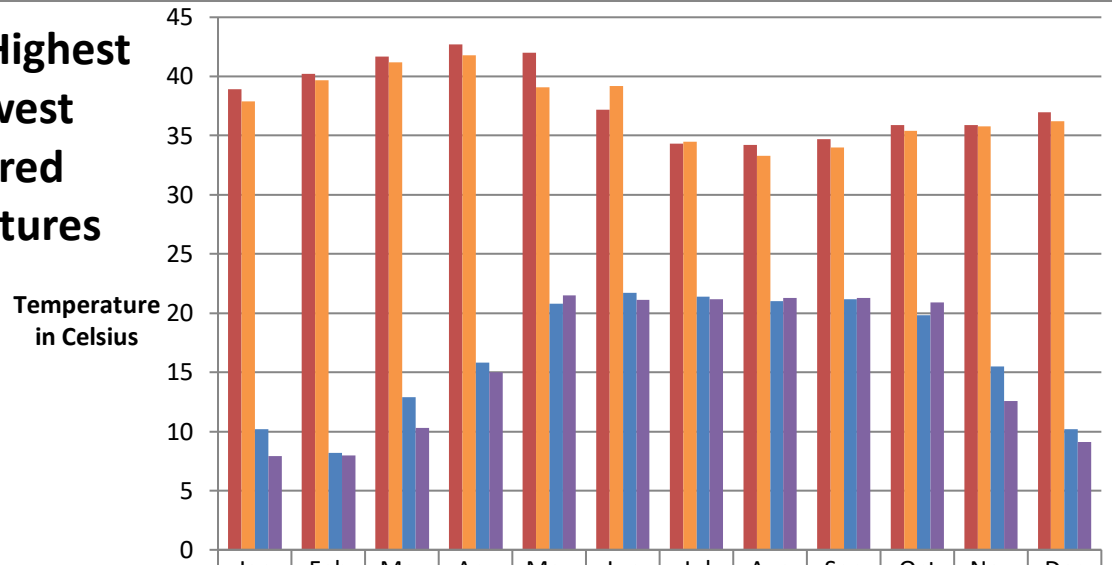
## Graph 2: Average monthly day and night temperature



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
◆ Average monthly day temperature 2016	28	29,3	32,5	32,3	32,5	29,6	28	27,7	27,7	29	29,1	26,4
■ Average monthly night temperature 2016	17,8	16,4	22	27	28,5	26,7	25	24,8	23,9	23,7	21,2	18,2
▲ Average monthly day temperature 2015	26,6	28,7	30,3	30,8	31,4	29,4	27,9	26,9	28	28,5	28,7	26
× Average monthly night temperature 2015	17	20,1	24,8	29,4	28,3	26,2	24,8	24,9	23,8	23,8	21,5	16,8

In contradiction to what graph 2 shows, the temperatures being more extreme in 2016, graph 3 shows a different thing. In the months of February, March and April, the lowest measured temperatures were actually lower in 2015. It could mean that 2015 had more peaks in low temperatures, where 2016 was more persistent during these colder periods.

**Graph 3: Highest and lowest measured temperatures**



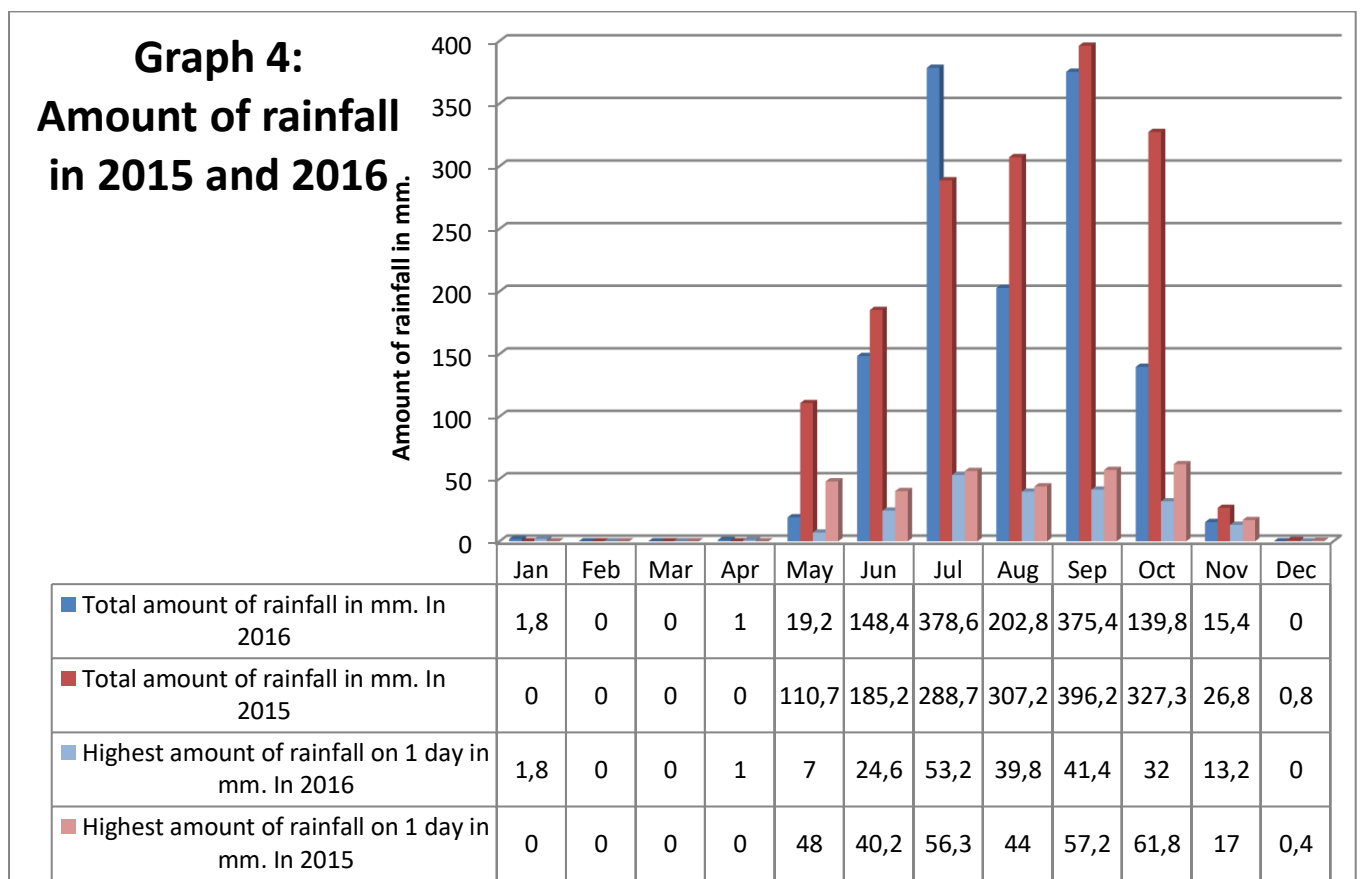
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ Highest measured temperature in 2016	38,9	40,2	41,7	42,7	42	37,2	34,3	34,2	34,7	35,9	35,9	37
■ Highest measured temperature in 2015	37,9	39,7	41,2	41,8	39,1	39,2	34,5	33,3	34	35,4	35,8	36,2
■ Lowest measured temperature in 2016	10,2	8,2	12,9	15,8	20,8	21,7	21,4	21	21,2	19,8	15,5	10,2
■ Lowest measured temperature in 2015	7,9	8	10,3	15	21,5	21,1	21,2	21,3	21,3	20,9	12,6	9,1

## 2. Rain

Lots of interesting things can be found when comparing the amount of rainfall between 2015 and 2016. Graph 4 shows the total amount of rainfall during these years.

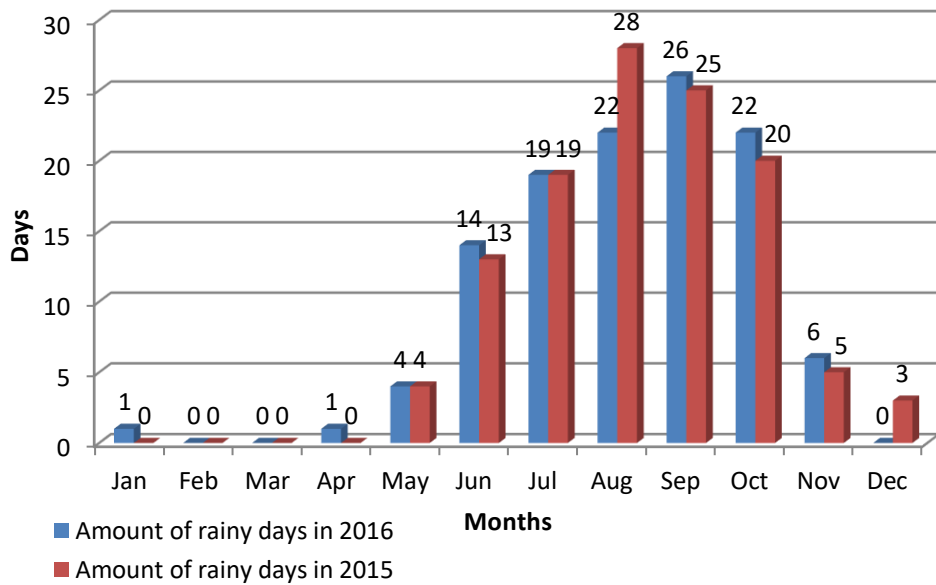
Overall it can be said that 2016 had a really bad raining season in the sense that way less rain fell in this year, compared to 2015. Taking in consideration that even some data might be lost from 2015, there was still an astonishing difference of 359.7 mm. of rainfall over the whole year.

First of all, the raining season seemed to have started later in 2016, where in the month May, a huge difference can be noticed between the two years. Also the intensity of these rain showers is seen here. In 2015, a more continuous amount of rain per month can be noticed, where 2016 just had two peaks, July and September. Overall, it is just in July, that more rain fell in 2016 compared to 2015. An astonishing difference can be seen in the months August and October. In 2016 the raining season sort of came to an end in October, whereas in 2015 it was still raining intensely.



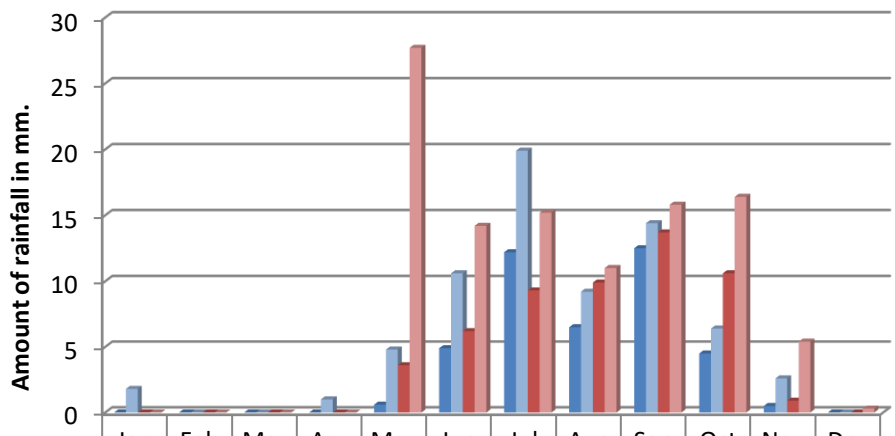
Although the total amount of rainfall in 2015 was immensely higher than 2016, barely any difference can be seen in the amount of rainy days (see Graph 5). Although August 2015 had 6 more rainy days and was obviously more rainy than 2016, October 2016 actually had more rainy days than October 2015, although less rain fell.

**Graph 5: Amount of rainy days**



The difference in rain intensity can clearly be seen in several months (see graph 6). Especially May 2015 had some really intense rain showers, whereas May 2016 wasn't spectacular in that sense. In October 2015 the intensity of rainfall can also clearly be seen. Looking at graph 5, the amount of rainy days was actually higher in 2016, but it was just a little bit of rain per rainy day as can be seen in graph 6.

**Graph 6: Average amount of rain per (rainy) day per month**

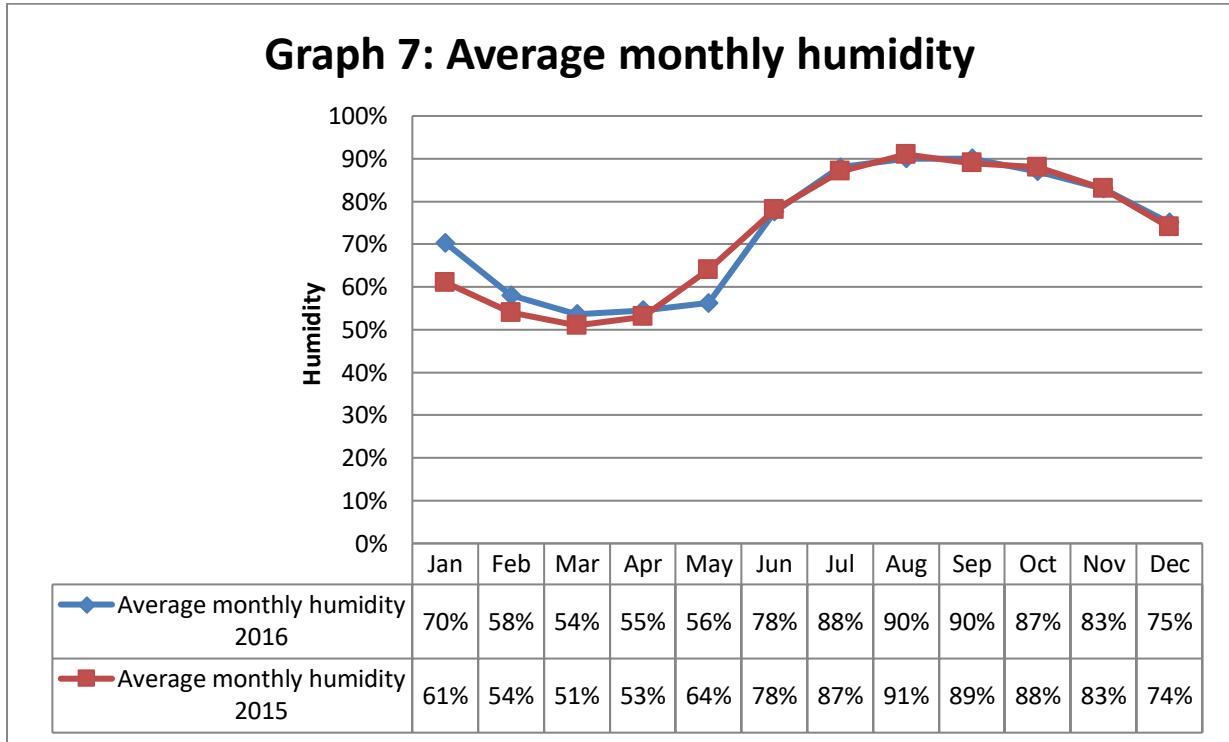


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ Average amount of rainfall per day per month in mm. In 2016	0	0	0	0	0,6	4,9	12,2	6,5	12,5	4,5	0,5	0
■ Average amount of rainfall per rainy day per month in mm. In 2016	1,8	0	0	1	4,8	10,6	19,9	9,2	14,4	6,4	2,6	0
■ Average amount of rainfall per day per month in mm. In 2015	0	0	0	0	3,6	6,2	9,3	9,9	13,7	10,6	0,9	0
■ Average amount of rainfall per rainy day per month in mm. In 2015	0	0	0	0	27,7	14,2	15,2	11	15,8	16,4	5,4	0,3



### 3. Humidity

The differences in humidity are slight when comparing 2015 and 2016. In January and February, the average humidity in 2016 was higher. Next to that, May 2016 had a lower average humidity. This could be an indicator of the longer period of drought in 2016 before the raining season started.



Also in highest and lowest measured humidity, just slight differences can be seen between 2015 and 2016. The highest measured humidity is more or less the same over the 2 years. About the lowest measured humidity can be said that these measurements have overall been lower in 2015 but just a slight bit, except from May and October. This could again be seen as an indicator of the raining season taking off later in 2016, but also ending sooner, whereas October 2015 was still very wet.

**Graph 8: Highest and lowest measured humidity per month**

