Climatological Information for the Region of Port-Harcourt over a 30-year Period

Port-Harcourt is located in the southern part of Nigeria, in the Niger Delta region. A city with a population of 1,382,592, it lies adjacent to the south Atlantic Ocean right in the heart of the Intertropical Convergence Zone (ITCZ). Port-Harcourt features a tropical monsoon climate with long and heavy rainy seasons and short dry seasons. Below is a simple **self-made** table showing some statistical climatic values for the region over a 30-year period;

Climate Data for Port-Harcourt Over 30-Year Period

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average High (^oC)	32.4	33.4	32.6	32.1	31.2	30	28.8	28.7	29.3	30.2	31.3	31.8
Daily Mean (^oC)	26.8	28	28	27.7	27.2	26.4	25.6	25.6	25.9	26.3	26.4	26.6
Average Low (^oC)	21.2	22.5	23.3	23.2	23.2	22.7	22.4	22.4	22.4	22.4	22.4	21.4
Average Precipitation (mm)	22.2	56.5	116.3	183.6	222.7	273.3	356.5	326.8	367.1	263.1	96.9	25.9

Fig 1

Other Information

Range (Temp.) – 2.4

Median (Temp.) – 26.7

Standard Deviation (Temp.) – 0.85

Range (Precipitation) – 344.9

Median (Precipitation) – 203.15

Standard Deviation (Precipitation) – 127.25

*February & March have the highest temperature while July & August have the lowest.

*September has the highest precipitation while January has the lowest.

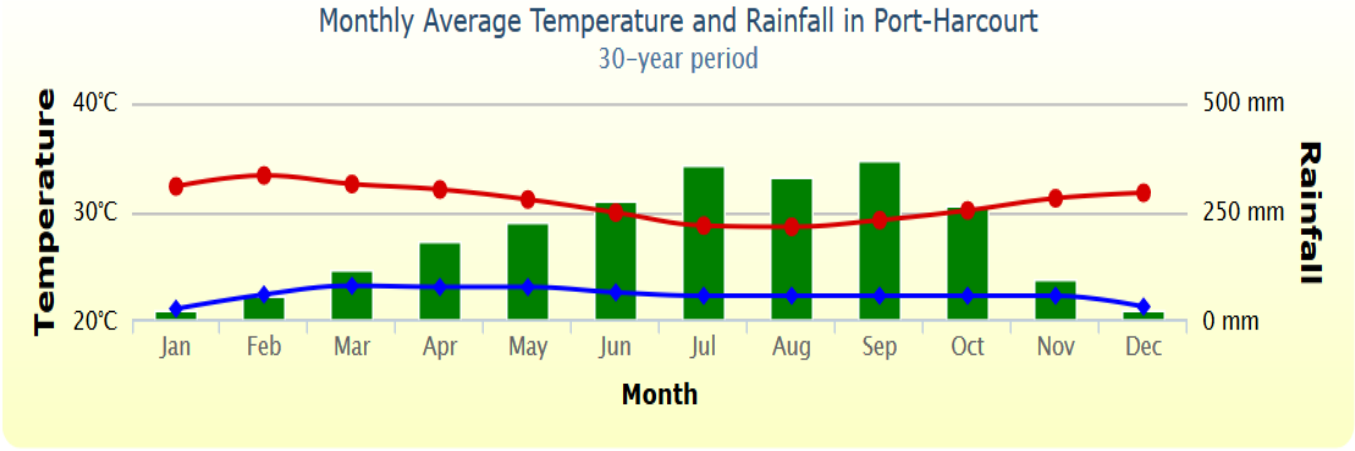

Fig 2

Graph obtained from World Meteorological Organization "World Weather Information Service" Official Forecast.

From the above data it can be observed that the amount of precipitation received doesn't necessarily correlate with the temperature, because the mean temperature for the region is fairly constant all year round, experiencing very little variation with a range of only 2.4. So therefore it can be safely said that the cause of the sharp rise in precipitation received in the region is as a result of the effect of an external variable. The cause of the temperature levels is apparently due to the location of the region in the tropics. However, the precipitation levels are as a result of its location right in the heart of the ITCZ. Port Harcourt's heaviest precipitation occurs during September with an average of 367 mm of rain. January on average is the driest month of the year with an average rainfall of 22 mm, this is because during this time, the region is hit by the Harmattan season which is caused by the influence of the Tropical Continental Air mass which brings cold dry air from the Sahara Desert due to the shift of the ITCZ. But in the months of high precipitation from around March to October the region is hit by the Tropical Maritime Air mass which brings warm, dense and humid air to the region as the ITCZ shifts again.

Environmental Effects of Climate Change in Port-Harcourt

Should there be changes in weather patterns, rainfall distribution, and temperature; this can result in the transformation of Port-Harcourt. If sea levels rise, the large tracts of the coastal lowland rainforest of Port-Harcourt and its enormous areas of mangrove forest will be affected. In response to global climate change also, ecological communities will be forced to migrate and this is an effort that would be more difficult because of habitat alteration and fragmentation. Also because of the typically high biodiversity and the potential feedback to the carbon, water, and nutrient cycles you can imagine a scenario where rapid climate change increases the temperature and forces organisms to move away from the equator, but the further they move from the equator, the more seasonal change they'll encounter, which will create greater temperature swings in their environments. Species that remain where the temperature is constant throughout the year would be faced with the necessity of adapting to higher temperatures. So therefore, climate change will cause a disruption to species living in the region and also a destruction of their habitat.

Indigenous Elder Impression on Climate Change in Port-Harcourt

In this case my elder is my great uncle Ekure who happened to be a farmer, he is presently 86 years of age and he owned a big rubber plantation. From my discussion with him over the phone, he recounted that back in the days when he was younger, that the weather used to be a little bit cooler and less humid and that the rains usually start from the month of April and persist all the way to October but according to the trend calculated above, the rainfall picks earlier in the month of March and persist to October and this slight change has altered the growing season for some specific crops grown by other farmers in the region. He also said (in his words) that the rains of recent have been strangely more heavy than before, and that the violent nature of the rainfall of recent has lead to flooding and destruction of some crops in the region. Although the block culverts

contribute to this flooding. However, it is established that the rains are heavier and that they pose a negative effect on crops and livelihood in the region.

Reference

Enete, A.A., Madu, I.I., Mojekwu, J.C., Onyekuru, A.N., Onwubuya, E.A., and Eze, F. (2011) 'Indigenous Agricultural Adaptation to Climate Change: Study of Southeast Nigeria', *African Technology Policy Studies Network, (*6), pp. 5-17 [Online]. Available at: *http://www.atpsnet.org/Files/rps6.pdf* (Accessed: 2nd November, 2015).