Book of Abstract

ASSOCIATION OF NIGERIAN GEOGRAPHERS

ANNUAL CONFERENCE

KASU 2019

GEOGRAPHY AND DISASTER MANAGEMENT

DATE: SUNDAY 13TH - THURSDAY 17TH OCTOBER, 2019
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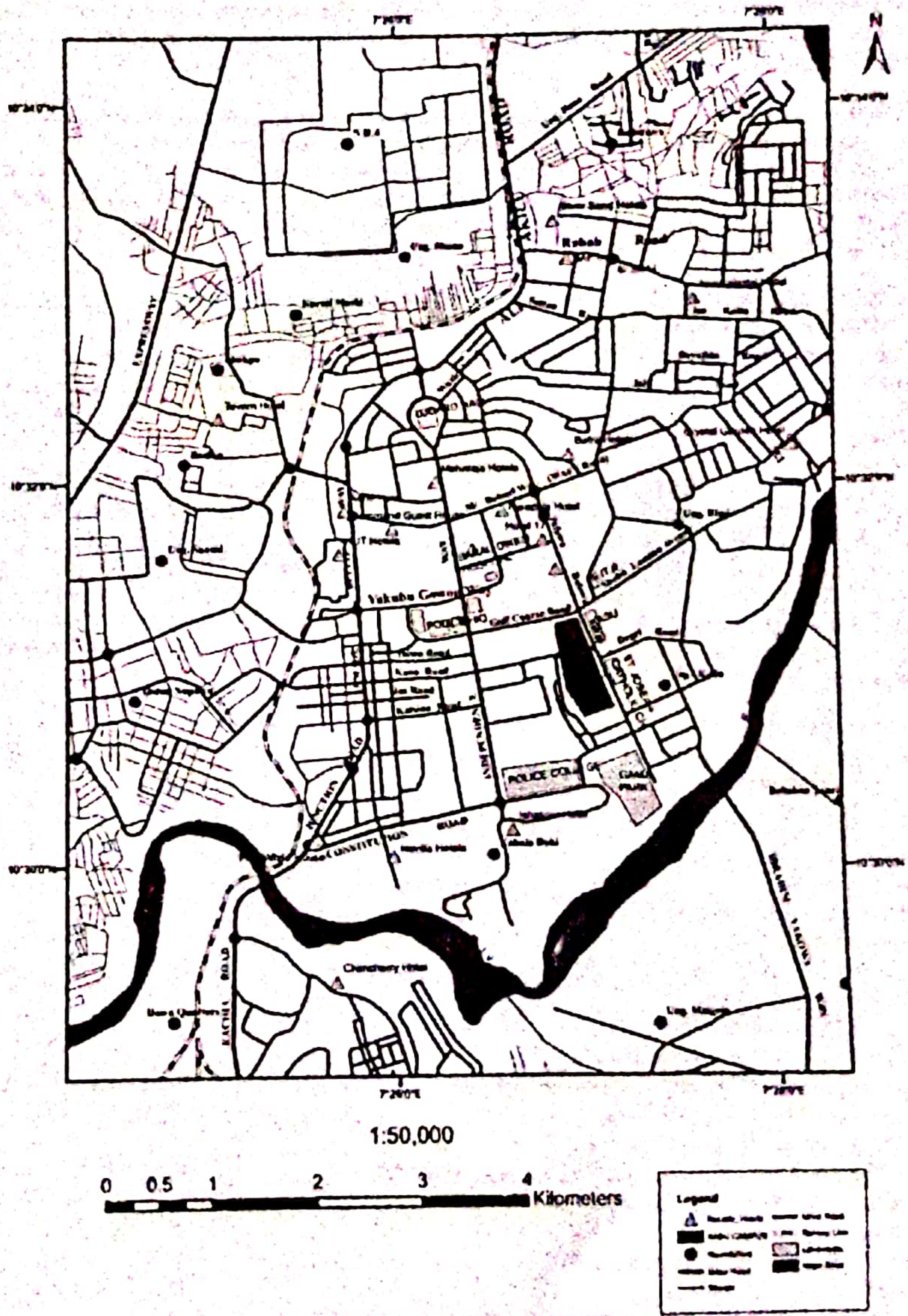

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FOR ANG @ 60.

ANG AT A GLANCE

The Association of Nigerian Geographers (ANG), formerly Nigerian Geographical Association (NGA) is one of the earliest umbrella academic Associations in Nigeria having been formed in 1957. It is a non-profit, scientific and scholarly Association that aims at advancing the study of Geography in Nigeria. Its members share interests in the theory, methods and practice of geography and geographic education. Currently, the Association has more than 1,000 members from all parts of Nigeria and beyond, and represent the interests of Geographers in the country. ANG members are geographers and related professionals who work in the public, private, and academic sectors. They work in a wide range of careers, such as university scholars, lecturers in colleges, teachers of geography, researchers and analysts, planners, cartographers, scientists, non-profit workers, entrepreneurs, businesspeople, bankers, graduate students, retirees and many others.

The Nigerian Geographical Journal (NGJ) and is the Association's flagship Journal. It has been the major publication outlet of Geographers in Nigeria since the formation of the Association. Annual Conferences Since its formation, the Association continues to hold its conferences annually on different campuses across the country. The Conferences offer opportunities for geographers to present, especially, their research outputs on issues from local to global scale, and on topics in the physical, human and development geography and as well as on methodological issues and technologies such as the Remote Sensing and the Geographical Information System (RS/GIS).

Methodology Lectures are now prominent features during the Conferences so are Field Trips. Moreover, in order to catch-them-young, students of secondary schools age are treated to National Geo-Quiz and also Poster Competitions. At these Annual Conferences, Annual General Meetings (AGM) are held. During such meetings, matters of concern to the geography community are openly discussed and decisions taken. Thus, the Annual Conferences are excellent avenues to, not only present one's own research works, they also provide avenues for the young and the old to network.

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AN OVERVIEW OF DISERSTER EFFECT IN ESTIMATING INTEGRATED WATER VAPOUR ON NIGERIA GPS CORS

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ABSTRACT
Water vapour is a very dynamic component of the atmosphere. It greatly influences the atmospheric stabilization mechanism. Hence, it is very difficult to measure or model using classical meteorological systems or models. Tropical atmosphere holds the largest amount of water vapour, thus it's characteristic high climate uncertainty. Interestingly Geodesists have devised methods for estimating the extent to which signals propagating from GNSS to ground-based GNSS receivers are delayed by atmospheric water vapor. This delay is parameterized in terms of a time-varying zenith wet delay (ZWD) which is retrieved by stochastic filtering of the GNSS data. Given surface temperature and pressure readings at the GNSS receiver, the retrieved ZWD can be transformed with very little additional uncertainty into an estimate of the integrated water vapor (IWV) overlying that receiver. Nowadays, networks of GNSS continuously operating stations (CORS) are available for a wide range of positioning capabilities and can offer the possibility of observing the horizontal distribution of IWV or, equivalently, precipitable water vapour (PWV). Thus, surface-based GNSS measurements of zenith path delay (ZPD) can be used to derive vertically integrated water vapour (IWV) of the atmosphere. Applicability of GPS for meteorology have been established in literature but much have not been done to check the impact of diserster during the estimation of integrated water vapour from Nigeria CORS (Nignet). In this paper, an overview of water vapour estimation from the Nignet GPS CORS is presented.

Keywords: integrated water vapour, *Zenith Path Delay, Nignet, GPS CORS.PWV, ZWD*

ANALYSIS OF RAINFALL VARIABILITY IN THE KAINJI LAKE BASIN: IMPLICATION FOR AGRICULTURE PRODUCTION

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ABSTRACT
Analysis of trend and variability in rainfall can provide the necessary information required for water resources planning and management in any geographical setting. Therefore, the present study applied trend analysis to investigate rainfall ends and variability using monthly and annual series over Kainji Lake Basin, Nigeria between 1980 and 2017. Rainfall in the area exhibits a single maximum in the month of July exhibiting single peak of rainfall in the month of August. Lowest rainfall amount of 0.0mm was in January while the highest of 222.1mm was in August. The mean rainfall in the area is 87.59mm; the trend line equation (Y = 5.54556x + 52.13) is positive; implying that rainfall increases in the area through the year. The pattern of annual rainfall in the area is characterized by marked fluctuation with variation from year to year. The lowest annual rainfall of 639.7mm was recorded in 1983 while the highest of 1537.6mm was received in 2017. The mean annual rainfall in the area during the study period is 1026.4mm with a coefficient of variation of 23.1%. The study shows that rainfall in 16years records is lower than the mean value of 1026.4mm while rainfall in 22 years records is higher than the mean value of 1026.4mm. The linear trend line equation (Y = 4.9354x + 954.78) is positive; meaning that the area experienced a progressive increase in rainfall amount during the study period. The equation also shows a predictive increase rate of 4.9% per annum, water resources managers may need to develop appropriate management strategies which include early warning system and sensitization to combat recurrent flooding during rainy seasons to avert the destruction of farmlands within the Basin.

Keywords: *Kainji, rainfall, temperature, flood*

AN ANALYSIS OF IMPACT OF RAINFALL OVER RICE PRODUCTION OUTPUT IN NASARAWA STATE

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ABSTRACT
Though agriculture is the predominant occupation in Nasarawa state, Central Nigeria, the impact of rainfall attributes on crop production appears not to have been adequately investigated in the area. Crop production is largely characterized by small holder subsistence farmers who depend solely on highly unpredictable and irregular seasonal rainfall. In recent times, rainfall

variation has led to numerous hazards like drought and floods. Present literatures on rice production in Nigeria showed more concern on rice demand and supply side even when the indicator on rainfall variability and climate change are shooting up, rice remains inaccessible in Nigeria by so many households because of cost and unavailability; on that note, several alternatives have been proposed and will continue to be developed in looking at the problem as well proffer solutions. However, from the literatures reviewed, there has not been any record of rainfall variability and rice production in Nasarawa State. Therefore, it is on this point that this paper analyzes whether there is a significant impact of rainfall variation over rice output variation in Nasarawa state. The time series data on rainfall and rice production output records for the study were 16years data and were sourced from the Nigerian Meteorological Agency, (NiMet) Abuja and Nasarawa state Agriculture and Development Project (NADP) respectively. The data was analyzed using simple linear regression with the aid of excel tool in carrying out the analysis of variance and impact analysis. The results shows that the p=0.915 was not significant at alpha level of significance of p<0.05. The implication of the finding was that rainfall variation is not significant over rice production-output variation in the study. The researcher is of the opinion that further researches be conducted on other variables believed to be responsible for the variations in rice production-output.

KEY WORDS: Analysis, Impacts, Rainfall, Rice, Production and Output.

URBAN HEAT ISLAND EFFECTS AND ITS IMPLICATION FOR URBAN COMFORT. A REVIEW

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Abstract
Urban heat island is formed due to development and expansion of urban areas. Ambient and surface urban temperature is higher than their adjoining rural areas due to surface characteristics differentials. Urban surfaces are replaced by impervious surfaces such as roads, buildings and paved surfaces while the rural surfaces are defined by pervious vegetative cover. Temperature differentials between urban and rural adjoining areas is high in urban areas due to high reflectivity and emissivity (high albedo) of urban surfaces than rural areas where reflectivity and emissivity (low albedo) of vegetative surfaces are minimal. The impacts on human and the environment are manifold e.g. heat stress, heat cramp, dehydration, low productivity and comfort of ambient city dwellers, reduction in vegetative cover, high evaporation and evapotranspiration in plants and reduction in soil quality in urban areas. The review examined studies on urban heat island effects on human and the environment. Studies investigated ambient and surface temperature differentials between urban and rural adjoining areas over time using both conventional stations and different resolutions of Landsat satellite imageries. Landuse/land cover classifications and the normalized difference vegetative index (NDVI) were mostly used. Mitigation measures are tree incorporation, redesigning of buildings with white surfaces and development of lawn and parks in cities. Studies focused on surface and boundary layer heat island effects than urban canopy and rural heat island effects. Urban heat island studies need to be redefined to accommodate changes and expansion in urban areas and emerging heat island effects in rural areas due to changes in physical and structural development of rural areas. There is a need for studies to focus on rural and urban canopy heat island effects.

Keywords: Urban Heat Island, Urbanization, Albedo, Temperature, Human Comfort etc.

CLIMATE CHANGE: CATALYST OF SEVERE DROUGHT IN WEST AFRICA.A RESURGENCE OF INSECURITY IN SOUTHERN FOREST OF NIGERIA.

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ABSTRACT
Climate change, its projected impact on the environment and socio-economic system now constitute the most important environmental problem that mankind faces in this twenty-first century which is more than ever before. The frequencies of occurrences of extreme weather eventexperienced in different part of the world recently and the devastating effects of these on humanexistence, properties and the economic sectors are enormous. Various previous predictions ofworld international bodies like Intergovernmental Panel on Climate Change (2007) stated thatclimate change and global warming would have serious implications in Africa. It was estimatedthat by 2020 between 75million and 250million people would be exposed to increase water stress,agricultural production in many African countries and regions were projected to be severely compromised by