

Enhancing drought early warning system for sustainable water resources and agricultural management through application of space science – Nigeria in perspective

J.N. Okpara (1), L.E. Akeh(2), A.C. Anuforom(3),P.B. Aribo(4) and S.O. Olayanju
Directorate of Applied Meteorological Services, Nigerian Meteorological Agency, P.M.B.615,
Garki, Abuja, Nigeria.

e-mail: Juddy_Okpara@yahoo.co.uk and tonycanuforom@yahoo.com

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BY

J. N. Okpara, L.E. Akeh, Anuforom, P. B. Aribo and S.O. Olayanju

Directorate of Applied Meteorological Services, Nigerian Meteorological Agency (NIMET), P.M.B. 615, Garki, Abuja, Nigeria

e-mail: Juddy_Okpara@yahoo.co.uk, and tonycanuforom@yahoo.com

Abstract

This paper attempts to highlight the importance of drought early warning system in water resources and agricultural management in Nigeria. Various studies have shown that the negative impacts of droughts and other forms of extreme weather phenomena can be substantially reduced by providing early warning on any impending weather extremes. X-rayed in this study are the various techniques presently used by the Nigerian Meteorological Agency (NIMET) in generating information for meteorological Early Warning System (EWS), which are based on models that make use of ground-based raingauge data and sea surface temperatures (SST) (Komuscu standardized precipitation index (SPI) inclusive). These methods are often limited by such factors as network density of stations, limited communication infrastructure, human inefficiency etc. NIMET is therefore embarking on the development of a new Satellite Agrometeorological Information System (SAMIS-Nigeria) for famine and drought early warning. The system combines satellite data with raingauge data to give a range of information products for agricultural and water resources applications.