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ROLE OF SPACE TECHNOLOGY APPLICATIONS IN MANAGING BIODIVERSITY AND CLIMATE  
CHANGE: CASE STUDY OF THE LAKE CHAD AREA OF AFRICA

**Abstract**

The “Lake Chad” was once one of the world’s largest lake, it is located in the Sahelian region of Africa bordering the Sahara desert and geo politically located within the borders of West and Central African regions (North-Eastern Nigeria, North-Western Cameroon, South-Eastern Niger and South Western Chad republics) . It was Over 25,000 KM square in the 1940s, but due to the continues and incessant impacts of climate change and the adaptation to this change by the inhabitants of these semi and desert regions of Africa has resulted in the blockages of some major feeder rivers to this Lake through damming of water for irrigational activities when the rainfall is no longer enough for a better cultivation example of such activities includes the blockage of the river “Shari” flowing from Cameroon through the republic of Chad in to the Lake by the Cameroon government ,the Damming of river “Yobe” at Kano by some state governments in Nigeria and some others. As a result of this human activities and general reduction of the rainfall from an average of 50 cm per annum to 35 cm per annum due to climate change has drastically reduced the Lake to one tenth (1/10) of its original size of 2,500 KM square in the 1948 and still keep shrinking. The Lake chad is still sustaining the livelihood of approximately 19 million people in Africa mostly living within the Lake Chad basin areas of Nigeria, Niger, Chad and Cameroon through providing water for their domestic activities such as drinking and cooking and for their economic, social and agricultural activities such as fishing, farming, trading in fish and potassium nitrate (a salt product found at the shores of this lake) as well as for Industrial activities like the mining or extraction of potassium nitrate from the shores and bed of this Lake. In the recent past only very few governments, policy makers and researchers mostly from the non-African world working on the managing/sustaining of this Lake Chad were able to be using the Space technology and applications in order to understand the exact position of this lake, surrounding ecosystem as well as the volume of water remaining or flowing in to this lake to proffer possible lasting solutions to this issue.