

Keynote Address: Airborne Radiometric Mapping and Health Implications of Natural Radionuclides in Selected Locations of Southwest, Nigeria

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Exposure to heavy metals and natural radionuclides through various means can dispose mankind to deterioration of health. It is essential and of great importance to monitor environmental radiation level and understand the consequences of radiation exposure for ecological conservation and human health. Aero-radiometric data collected from Nigeria Geological Survey Agency (NGSA) for selected locations in some part of Ondo state was analyzed using Oasis Montaj. The activity concentration of ^{238}U , ^{232}Th in ppm ranged between 0.03-7.67, 1.31-40.36 and 0.18-3.03 in % for ^{40}K respectively. The radionuclides content was re-constructed in Bq/kg using the relevant conversion factor and the values ranges between 0.38-94.72, 5.31-163.86 and 56.40-949.71 for ^{238}U , ^{232}Th and ^{40}K accordingly. The qualitative analysis gave the result of the absorbed dose of 13.82-163.02 nGy/h. The ternary map indicates the relative abundance of ^{40}K in the study area. ERICA tool reported 3.74 $\mu\text{Gy}\cdot\text{h}^{-1}$ and 1.04 total dose rate/organism and risk quotient, respectively for cattle in Abeokuta-FUNAAB while it requested further assessments in Ikorodu-LASG-Fish-Farm, Ojo-LASU-Fish-Farm and Ifo-Dagbolu-Ajakaye as it returned risk quotients values >1 . The study concluded that Abeokuta-FUNAAB and Agege-Matogbun have high radiation burdens. Remedial actions are recommended in locations with high-risk radiation levels.

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