Occup Med Health Aff 2017, 5:2(Suppl)
DOI: 10.4172/2329-6879-C1-032

DETECTION OF EUTROPHICATION PRESENCE IN INLAND WATER BODIES, USING VICARIOUS CALIBRATION METHOD RELATING TO THE LAUNCH OF SENTINEL 2 AND 3 SATELLITES

Zimbini Faniso[a], **Derek J Griffith**[a] and **Edwin Magidimisha**[b]
[a]CSIR Defence, South Africa
[b]University of Fort hare, South Africa

This paper clarifies the study results on the detection of eutrophication presence in inland water bodies using vicarious calibration methods. Water eutrophication is defined as the high enrichment of water with nutrients. When the amount of nutrients is excessive in water it causes a huge damage in ecosystem. This enrichment is due to surface run-off after heavy rainfalls; it gathers all the filthy rubbish on top of the surface e.g. fertilizers from crops farms and dirty stuffs and flood them to the rivers, dams, lakes and reservoirs. This process becomes a challenge in our country since it is a result to death of aquatic animals and plants due to shortage of oxygen. The flooded nutrients enable the growth of plants under water which affects living animals some eventually die and that damage water and lead to diseases to people who use the water for living. This study has performed in-situ measurements collecting measurements of sentinel 2 and 3 overpass over the Roodeplaat dam in South Africa for the detection of eutrophication in water. The study used a quantitative method where the Analytical Spectral Device (ASD) with an optical sensor took three measurements on different sites of the dam. Then using the Radiative Transfer Modelling tool i.e. Modtran the results showing the spectral of water leaving radiance were obtained and viewed under different modtran characters which are rural and urban. These two compare the behaviour of water reflected signal at rural area and at urban area form.