Tide Coordinated Shorelines in Delineating Between Legal Boundaries and Determining National Maritime Zones

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SUMMARY

Boundary disputes especially along the coastal regions are now a global phenomenon. African is no exception as there are presently disputes along the maritime zones, between states within a country and most especially in areas with massive coastal flooding. There is no effective Land administration and control without a definite definition of the respective maritime zones. Information derived from shoreline management and monitoring is vital for delineating boundaries between legal properties and monitoring of the regular changes as caused by coastal flooding. This study therefore evaluates the use of Geospatial Data Techniques in shoreline change detection. The study area is the Buck Mill in Devon, United Kingdom. Emphasis is on tide-coordinated shorelines using the Global Positioning System (GPS), the Light Detection and Ranging (LIDAR) and the Ordinance survey master map 1:10,000 scale showing the study area. Changes along this shoreline were ascertained from variations on the mean low water observed for four different years. The software used is the ArcGIS 10.1 and Hardware is Pentium 4 among others. Both manual and semi automatic extraction techniques were used to extract the mean low water marks for these years. Results obtained are represented in form of charts, tables and digital maps. An evaluation of these results shows that the use of geospatial data technique is capable of constant monitoring of a coordinated tidal surface along the maritime zones. It is therefore recommended for an effective and complete land administration. It is also a sure means of protecting existing infrastructure from coastal flooding.