

## **USE OF GIS IN THE EVALUATION OF HEAVY AND LIGHT MINERALS IN THE CONTINENTAL SHELF OF CABO FRIO, RJ, BRAZIL**

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This paper describes the use of Geographical Information System called SAGA in the evaluation of spatial distribution maps of heavy and light fractions in the bottom sediments of the continental shelf near to Cabo Frio, RJ, Brazil and its association with the textural facies. The heavy minerals (fine sand and very fine sand fractions) were separated from minerals of lower density by gravity method (bromoform). The roundness and sphericity of light minerals were estimated by Power's roundness scale. The inner continental shelf between the islands of Cabo Frio and Papagaio is divided into four sedimentary facies: sand, silty sand, sand-silty-clay and clayey silt. The sand facies is distributed SW and SE of Papagaio island, SE of Cabo Frio island. The silty sand facies occurs SE of Papagaio island and East of Cabo Frio island and the sand-silt-clay facies occurs NE and South of Cabo Frio island. The clayey silt facies occurs NE of Cabo Frio island. Based on spatial distribution maps of heavy and light minerals and textural facies map, environmental signatures were elaborated. In general, the classes of high contents of heavy minerals and the classes of sand-size particles (light minerals) having high sphericity, high sphericity/sub-angular were associated with the clayey silt facies (muddy sediments).