Abstract
In Rio Grande do Sul State, there are four marine shrimp (Litopenaeus vannamei) farms in the municipal districts of São José do Norte and Rio Grande, and other four with previous license for operation. Thus, the present study aimed to identify and characterize areas for marine shrimp farming located in the Southern portion of the Patos Lagoon estuary (32°00’S 52°00’W) by employing the analysis of satellite remote sensing (Landsat TM and ETM+/Google Earth), airborne remote sensing (35mm system ADAR 1000), terrestrial remote sensing (RICOH 500SE), and field expeditions, integrating data in a Geographical Information System (IDRISI Andes). As a result, the enterprises were built on coastal fields or in obliterated dune areas, which are favorable for cultivation. The proximity of possible consuming markets and local labor, relatively good access roads and local technical support also favor the projects. However, there must be caution in terms of changes in the original projects, which could cause environmental impacts and noncompliance of environmental norms, such as the occupation of salt marsh areas. Based on the obtained information, instruments can be created to help inherent legal decision-making to manage the activity for futures enterprises.

Keywords
Costal management, GIS, Patos Lagoon, shrimp farms.