

POTENTIAL OF SAR/RADARSAT DATA FOR COASTAL AND ESTUARINE ENVIRONMENT STUDY, GOLFÃO MARANHENSE, BRAZIL AMAZON REGION

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The Golfão Maranhense (São Marcos and São José bays) were situated in the northwest of the Maranhão state characterized by an macrotidal regime (7,4 m tidal range) where occurs several sedimentary environments in coastal and estuarine zones. The SAR imagery is an excelent approach to analysis the estuarine and coastal environments in tropical rainforest in anywhere period of the year. The analysis of SAR data was based on a Radarsat scene beam S2, acquired in November/1998, ascending pass, right looking, wavelength 5 cm and polarization HH. The São Marcos bay is an open estuary (50km width) with strong tidal current. The use of Radarsat data to investigate the estuarine areas allowed to observe the superficial tidal current line in the ebb and flood channels (20m deep) located in the margins of the bay and high estuarine sandy banks, that migrate in the inner part. Estuarine bar mouths were also recognized in the imagery. In the coastal adjacent zone it was possible identify diverse environments and landforms such as inactive and active cliffs, tidal flats (mangrove), salt marshes, wetlands, cheniers, coastal dunes, beaches, ebb-tidal delta and tidal shoals very well represented in the area. The analysis of SAR/Radarsat imagery allowed to make evident the differents coastal and estuarine sedimentary environments developed in macrotidal conditions. Its is concluded that Radarsat is a powerful tool to investigate tropical coastal zones.