

Inventory and monitoring of coastal aquaculture and fisheries structures provide important baseline data for decision-making in planning and development, including regulatory laws, environmental protection and revenue collection. Mapping these structures can be performed with good accuracy and at regular intervals by satellite remote sensing, which allows observation of vast areas, often of difficult accessibility, at a fraction of the cost of traditional surveys.

Satellite imaging radar (SAR) data are unique for this task not only for their inherent all-weather capabilities, very important as aquaculture activities mainly occur in tropical and subtropical areas, but essentially because the backscatter from the structure components allows for their identification and separation from other features.

The area selected and object of the study has been Lingayen Gulf, sited in Northwestern Luzon Island, the Philippines, where all these structures of interest occur.

Field verification of the methodology resulted in the following accuracy: fishponds 95 percent, fish pens 100 percent.

Mapping accuracy for fish cages was estimated at 90 percent and for fish traps at 70 percent.

The study is based on interpretation of SAR satellite data and a detailed image analysis procedure is described. The report aims at the necessary technology transfer for an operational use of the approach indicated in other similar environments.

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