Development of an Open-Source Mechanism towards Detection of Potential Fishing Zones in Madagascar Waters and It's Dissemination to Stakeholders

Rabary AJM.[13], Nagaraja K.M.[2], Bemiasa J.[3], Rafenomananjara TH.[3]

[1]Ministère des Ressources Halieutiques et de la Pêche-Madagascar, [2]Indian National Centre for Ocean Information Services, Hyderabad, INDIA, [3]Institut Halieutique et des Sciences Marines-Madagascar

Today open source software is considered equivalent with commercial software. In biological and ecological studies, it is often difficult to find substantial budgets for the use of commercial software and tools for each extension of these software requires the purchase of specific license. The investigations lead us to promising results on the identification of open source software capable of performing the necessary tasks in the identification of potential fishing zones. This software is constantly improving and develop. Our project aims essentially to use the software to effectively reproduce the PFZ generation process. This part of the collection of satellite data through their treatments, analysis and interpretation, and finally the establishment of reports that can be decrypted and used by fishermen easily. Remote sensing and geographic information system (gis) software respectively Seadas and Quantum Gis have been developed to facilitate the use of satellite imagery in the field of applied oceanography. In this project, these programs were effective and comprehensive both in the corrections that must suffer the images to use as representations of potential fishing zones in the maps.

As for the data used, they are also freely available with prior registration and can be viewed and collected on-line. Images procured by Modis and distributed by NASA really meet our expectations. They provide images with acceptable resolutions (1 km and 4 km) and partially treated. Two image levels (level 2 and level 3) are available as needed. Some of these images still require preparations to be used properly. The detection of potential fishing zones is facilitated by the use of GIS, while respecting the principles of localization and handling procedures.

The advance of lower cost techniques and technologies allow Madagascar to move towards sustainable fisheries management while giving fishermen the information necessary in their fishing activity. Many research and studies are still needed for the implementation of PFZ function of this detection system. This is important for more precision in locating areas, in the validation of these PFZ, in collecting information on catches. All this is done to compensate for the protein deficiency in the population of Madagascar and also to develop the sector of artisanal fisheries.