

# Operational Fisheries Oceanography Using Satellite Remote Sensing and Marine-GIS for Sustainable Fisheries (Understanding for each and integrated ecosystem using remote sensing, 6th International Symposium on Integrated Field Science)

著者	SAITOH Sei-Ichi, TAKAHASHI Fumihiro
journal or publication title	Journal of Integrated Field Science
volume	6
page range	156-156
year	2009-03
URL	<a href="http://hdl.handle.net/10097/48820">http://hdl.handle.net/10097/48820</a>

# **Operational Fisheries Oceanography Using Satellite Remote Sensing and Marine-GIS for Sustainable Fisheries**

**Sei-Ichi SAITOH<sup>1,2</sup> and Fumihiro TAKAHASHI<sup>1,2</sup>**

**<sup>1</sup> Laboratory of Marine Bioresource and Environment Sensing,  
Graduate School of Fisheries Sciences, Hokkaido University, Japan.**

**<sup>2</sup> SpaceFish LLP, Japan**

This paper presents an overview of a newly developed ubiquitous fisheries information system using satellite remote sensing and geographical information system (RS/GIS). The system was developed to aim for providing high value-added fisheries oceanographic information in anytime and at anywhere. We also make this system to come into wide use for especially fishermen and managers in fisheries cooperation or fisheries experimental stations. This system consists of four subsystems; MODIS (Moderate Resolution Imaging Spectroradiometer) receiving subsystem, database subsystem, analysis subsystem, and GIS subsystem (WebGIS and onboard-GIS). MODIS system provides sea surface temperature, chlorophyll-a concentration and sea ice distribution. Database manages the all products under Oracle software. Analysis subsystem produces level 1 to level 5 products, which include fishing ground forecasting of Japanese common squid, Pacific saury, Skipjack tuna and Albacore tuna. These procedures run automatically, so that the fishermen could receive information in near real time through communications satellites (maritime satellite internet services and digital packet communication services) and S-band Digital Multimedia Broadcasting (S-DMB) Service. Using satellite communication services, users can operate all products dynamically such as overlaying, measuring distance from nearest port or fishing grounds on the onboard GIS. On the other hand, using S-DMB service, users can receive several marine information and weather information as broadcasting. Those systems can help to support effective fishing activities such as economy with time for fishing ground destination or nearest landing port. This ubiquitous information services promise to promote sustainable fisheries operation and management in the offshore around Japan.