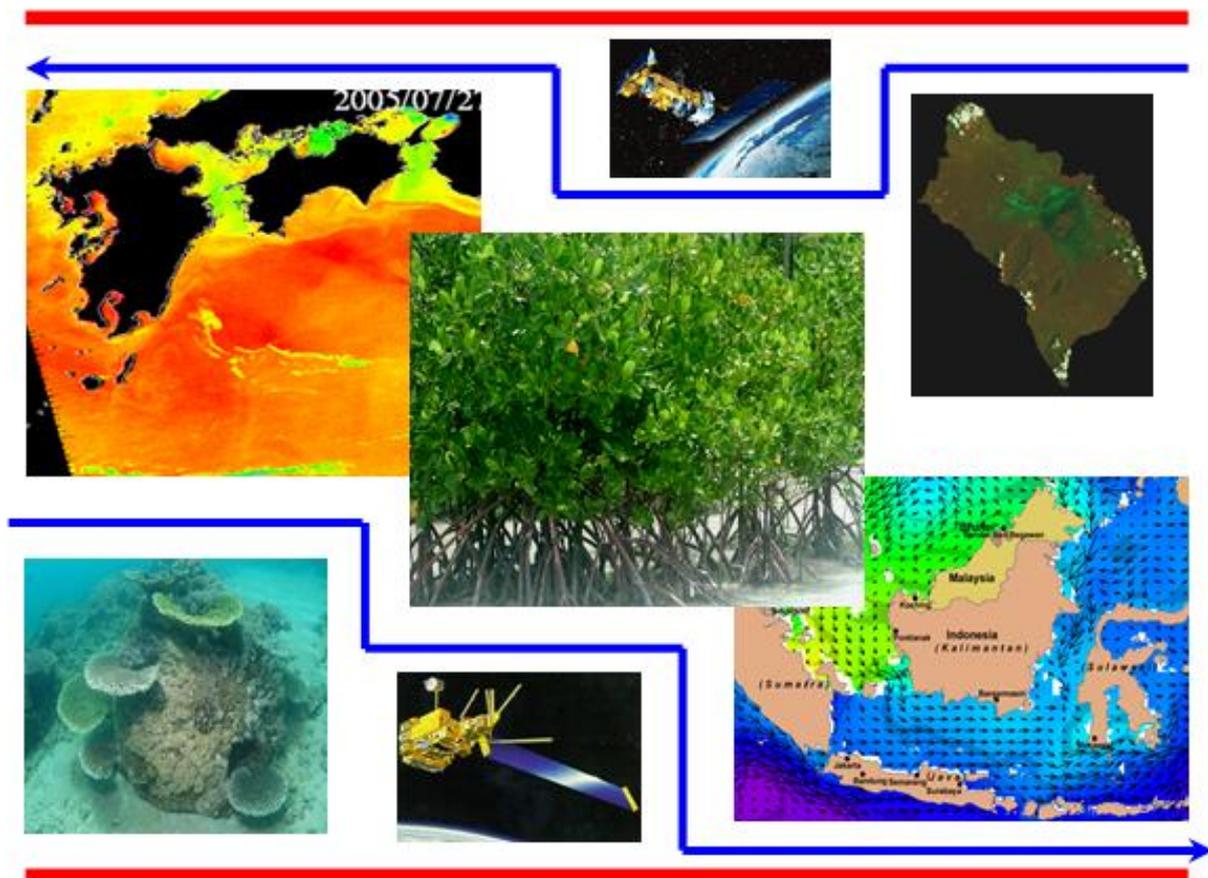


ISBN : 978.979.704.692.7



Proceeding  
**International Conference**  
Geomatics, Fisheries and Marine Science  
For a Better Future and Prosperity  
Semarang-Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008



**BADAN PENERBIT UNIVERSITAS DIPONEGORO  
SEMARANG, 2009**

**Proceeding**  
**International Conference**  
Geomatics, Fisheries and Marine Science  
For a Better Future and Prosperity  
**Semarang-Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008**

**Editor :**

**Dr.Ir. Agus Hartoko, MSc**  
**Muhamad Helmi, SSi, MSi**  
**Ir. Siti Rudiyantri, MSc**



**BADAN PENERBIT UNIVERSITAS DIPONEGORO**  
**SEMARANG, 2009**

**Proceeding**  
International Conference  
Geomatics, Fisheries and Marine Science  
For a Better Future and Prosperity  
**Semarang-Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008**

ISBN : 978.979.704.692.7

Editor :

Dr.Ir. Agus Hartoko, MSc  
Muhamad Helmi, SSi, MSi  
Ir. Siti Rudiyanthi, MSc

2009

Published by :

Badan Penerbit Universitas Diponegoro  
Jl. Imam Barjo, SH No. 1 Kotak Pos 270  
Telp. 311520 (Biro Rektor UNDIP)  
Semarang

Hartoko, A; M. Helmi and S. Rudiyanthi. 2009. Proceeding International Conference : Geomatics Fisheries and Marine Science for a Better Future and Prosperity. 304 p.

Cover Design :  
Agus Hartoko

**LIST OF CONTENT**

<b>A. PREFACE</b> .....	<b>i</b>
<b>B. LIST OF CONTENT</b> .....	<b>ii</b>
<b>C. KEYNOTE SPEAKER</b>	
1. Artificial Reefs for Ecosystem Restoration and Coastal Erosion Protection with Aquaculture and Recreational Amenities .....	1
<i>Lee Haris, PhD, PE</i>	
2. Geomatics, Fishery and Marine Science: An Earth System Science Approach .....	15
<i>Prof. Dr. Ir .Jacub Rais, MSc</i>	
3. Enhancing of Indonesian’s Maritime Security status by application of Satellite Surveillance: The Pilot Project of Bakorkamla .....	17
<i>M. Rudi Wahyono</i>	
4. Establishment of International Consortium and Collaboration Program Between Indonesia and Japan .....	19
<i>Dr. Takahiro Osawa</i>	
5. LAPAN’S Remote Sensing Activities to Support Marine and Fishery Application In Indonesia .....	31
<i>Dra. Ratih Dewanti, MSc</i>	
6. Langkah Kebijakan Antisipatif Pengaruh Fenomena Global Warming terhadap Pulau-pulau Kecil .....	52
<i>Prof.Dr.Ir. Alex SW. Retraubun, MSc</i>	
<b>D. GEOMATICS</b>	
1. Management of Conservation Area for the use of marine tourism based on carrying capacity .....	59
<i>Dr. Ir .M. Yusuf, MSc</i>	
2. The Study Of Relationship Between TSS (Total Suspended Solid) and Land Use – Land Cover Change Using Remote Sensing Data in Berau Coastal Area, East Kalimantan .....	84
<i>Ety Parwati, Tatik Kartika, Joko Indarto, Fanny Dyah A.K., Mawardi Nur, Mahdi Kartasasmita</i>	
3. Study of Interaction between Physical Processes with Biological using Satellite Ocean Color Data, case study of Hyuganada East Kyuhsu Sea Water .....	96
<i>Gathot Winarso and Hiroyuki Kikukawa</i>	
4. Land Suitability Analysis Based on Disaster Mitigation on Coastal Cities-a case study of Semarang City .....	133
<i>Imam Buchori and Yuwono</i>	
5. Effectiveness of MODIS Chlorophyll- <i>a</i> image and Monthly Tuna Migration Model for Forecasting Tuna’s Fishing Ground .....	143

## INTERNATIONAL CONFERENCE

*Geomatics, Fisheries and Marine Science for a Better Future and Prosperity*

*Semarang, Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008*

<i>Ir. Kunarso, Msi, Dr.Ir. Agus Supangat, Wiweka</i>	
6. Analysis of Eutrophication Level of Waters in the Segara Anakan Lagoon Kabupaten Cilacap by Using SPOT Satellite Image Data -----	153
<i>Nurbayu Sutiya Rahmi and Dr.Ir.Agus Hartoko, MSc</i>	
7. DEM Generation From PRISM-ALOS and ASTER -----	167
<i>Bambang Trisakti and Firsan Ardi Pradana</i>	
8. The Application of Image Satellite For The Study of Normalized Difference Vegetation Index Change in Rawapening Catchment Area---	177
<i>Ir. Tjatur Rahono, Msi</i>	
9. Ecosystem suitability Analysis of Segara Anakan Lagoon as Cultivation Based On Primary Productivity Aspect using Remote Sensing -----	195
<i>Vivi Endar Herawati, S.Pi, Dr. Ir. Agus Hartoko, M.Sc, and Dr. Ir. Suminto M.Sc</i>	
10. Loss Index Model of Rice Agriculture in Several Scenario of Tsunami Wave Height at Coastal Area of Bantul District -----	214
<i>Ari Cahyono, Fitria Nuraini Sekarsih , Maulana Istu Pradika, and Maslahatun Nashiha</i>	
11. The Change of Mangrove Forest Width in Segara Anakan Area, Cilacap Regency Based on satellite Image Analysis -----	229
<i>Yusuf Kusuma, Boedi Hendarto and Agus Hartoko</i>	
12. Sea Surface Temperature Analysis Using MODIS Images and TRITON buoy as Data In Situ for Observing Up Welling Estimation in North Water Territory of Papua -----	253
<i>Widhya Nugroho, Agus Hartoko, Prijadi Soedarsono</i>	
13. Investigation of Total Suspended Matter in Porong Region Using Aqua-Modis Satellite Data And Numerical Model (Abstract) -----	266
<i>Bambang Sukresno, Bayu Priyono, Dedy Aan Zahrudin and Berny A Subki</i>	
14. Chlorophyll and Total Suspended Matter Retrieval Using Hyperspectral Radiometer Data (Abstract) -----	267
<i>Novi Susetyo Adi</i>	
15. Some Problems in Indonesian Water Tide Model Development based on Satellite Altimetry Data (Absract)-----	268
<i>Kosasih Prijatna, Dina.A. Sarsito, Sella L. Nurmaulia, Fanani H. Khusuma</i>	
16. Primary Production and Fish Production Estimation Derived From Satellite Data in Banda Sea (Abstract) -----	269
<i>Komang Iwan Suniada and Yasuhiro Sugimori</i>	
17. Application of Wavenumber Model to Estimate Nearshore Bathymetry (Abstract)-----	270
<i>Muhammad Zikra</i>	

### **E. FISHERIES AND MARINE SCIENCE**

1. Optimalization Model of the Coastal Zone Based on its Sustainability for the Brackishwater Fishponds in Gresik Regency East Java -----	271
<i>Dr. Viv Djanat Prasita, Ir. Is Yuniar, Msi, Ir. Nuhman, Mkes</i>	
2. Investigation of the inter-oceanic connection between the Makassar Strait and the Java Sea using HYCOM -----	286

## INTERNATIONAL CONFERENCE

*Geomatics, Fisheries and Marine Science for a Better Future and Prosperity*

Semarang, Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008

- Ibnu Sofian and Antonius Bambang Widjanarto*
3. Heavy Metal Concentrations In Water, Sediment, And Mussel Tissue At Northern Coastal Region (Pantura) of Central Java ----- 299  
*Dr.Ir. Bambang Yulianto, DEA*
  4. Nearshore Current Study Using A Quasi 3D Model; Study Case : Dadap Beach Waters, Indramayu ----- 310  
*Engki A. Kisnarti, Totok Suprijo*
  5. The Study of Land Subsidence Rate at Coastal Area of Semarang City, Indonesia ----- 330  
*Anindya Wirasatriya*
  6. Review : Prospect of Mannan Oligosaccharide (MOS) as Food Supplement for Tiger Shrimp (*Penaeus Monodon*)----- 339  
*RS. Bayu Mangkurat*
  7. Polder Tawang Semarang : Study Case of Biotechnology Application and Waste water Treatment as Part of Integrated Coastal Management ----- 352  
*Hermin Pancasakti Kusumaningrum, Muhammad Zainuri, Muhammad Helmi, and Hadi Endrawati*
  8. Seasonal Activity of Metabolic Enzymes of *Littorina littorea* (Gastropoda: Moluska) ----- 360  
*G.J. Fontje Kaligis*
  9. Physiochemical Changes in Milk Fish (*Chanos chanos Forks*) Boneless Treated With Maize Cob and Coconut Shell Liquid Smoke ----- 375  
*Fronthea Swastawati, Sudibjono, Dessy Amelia Sekar Dita*
  10. Vital Habitats Identification on the Sea Conservation Area of Ujungnegoro Beach – Roban ----- 382  
*Hadi Pranggono and Benny Diah Madusari*
  11. Engineering of Technology Monoculture Superintensive System on Mud Crab (*Scylla paramamosain*) Using Different Feeds on The Growth and Survival Rate ----- 393  
*Dr. Ir. Istiyanto Samidjan, MS*
  12. Improving The Technology Intensive Culture System on Mud Crab (*Scylla paramamosain*) Using Different Dosage Artificial Feeds Based Lipid Source on The Growth and Survival Rate----- 406  
*Dr. Ir. Istiyanto Samidjan, MS and Ir. Agus Indardjo, Mphill*
  13. Structure Composition of mangrove Vegetation in Ajkwa and Kamora Estuary, Papua----- 417  
*Rudhi Pribadi*
  14. Coral Recruitment on artificial substrata at Panjang Island, Central Java (Abstract)----- 438  
*Dr.Ir.Munasik, MSc, Lely F Anggraini, A. Hafiz Adyas*
  15. Anthropogenic Impact on The Abundance of Coral-Eating Snail, *Drupella Cornus (Muricidae)* In Bunaken National Park (Abstract) ----- 439  
*Farnis B. Boneka*
  16. Biofiltration Performance of Three Different Species of Seaweeds In a Recirculating System (Abstract)----- 440  
*Lilik Teguh Pambudi, SPi, MSc and Jae-Yoon Jo*
  17. The Genetic Characteristic Cloned of Sumatra Fish (*Puntius tetrazona*

# INTERNATIONAL CONFERENCE

*Geomatics, Fisheries and Marine Science for a Better Future and Prosperity*

*Semarang, Indonesia, October 21<sup>st</sup> – 22<sup>nd</sup> 2008*

---

Bleeker) from Gynogenesis (Abstract) -----	442
<i>Tri Yusufi Mardiana Komar Sumantadinata, Dinar Tri Soelistyowati, Utut Widyastuti and Slamet Suharto</i>	
18. Study on Wastewater treatment plan design for the lempasing Fish Market, Bandar Lampung, Indonesia (Abstract) -----	443
<i>Yonik Meilawati Y, Hary Pradiko and Verlyany Dewi</i>	
19. Strategic Actions to Mitigate Wastewater Impacts in the Coastal area of Manado city, North Sulawesi, Indonesia (Abstract) -----	444
<i>Markus T. Lasut</i>	
20. Reducing Shrimp Trawl by Catch in Arafura Sea, Indonesia (Abstract + Poster) -----	445
<i>Nurul Af-idati and Sang-Go Lee</i>	
<b>F. DOCUMENTATION -----</b>	<b>447</b>