

# **2nd International Seminar on Ocean and Coastal Engineering, Environment and Natural Management 2014**

Procedia Earth and Planetary Science Volume 14

Surabaya, Indonesia  
2 December 2014

**Editors:**

**Suntoyo**

**Daniel M. Rasyid**

ISBN: 978-1-5108-1219-2

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© by Elsevier B.V.  
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact Elsevier B.V.  
at the address below.

Elsevier B.V.  
Radarweg 29  
Amsterdam 1043 NX  
The Netherlands

Phone: +31 20 485 3911  
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## Contents

Partnership in Building Community Resilience on Disaster in the Region of Coral Triangle, Indonesian Case W.A. Pratikto, Suntoyo	1
The Tsunami Run-up Assessment of 1977 Sumba Earthquake in Kuta, Center of Lombok, Indonesia E. Pradjoko, T. Kusuma, O. Setyandito, A. Suroso, B. Harianto	9
The Evaluation of Beach Recreational Index for Coastal Tourism Zone of: Delegan, Kenjeran, and Wisata Bahari Lamongan M. Mustain, H.D. Armono, D.T. Kurniawan	17
Determination of Shoreline Changes from 2002 to 2014 in the Mangrove Conservation Areas of Pamurbaya Using GIS V.D. Prasita	25
Risk of Navigation for Marine Traffic in the Malacca Strait Using AIS M.B. Zaman, E. Kobayashi, N. Wakabayashi, A. Maimun	33
Aging Treatment to Increase the Erosion-corrosion Resistance of AA6063 Alloys for Marine Application H. Pratikno	41
A Critical Study on the Haldar and Mahadevan's Reliability Analysis A. Wisudawan, R.W. Prastianto, Y.S. Hadiwidodo, D.M. Rosyid	47
Climate Change Impacts on Indonesian Coastal Areas M. Zikra, Suntoyo, Lukijanto	57
Modification of the Intact Stability Criteria to Assess the Ship Survivability from Capsizing Hasanudin, J.-H. Chen	64
Vulnerability Assessment of Reinforced Concrete Building Post-Earthquake E. Wahyuni	76
A Determination Analysis of Regional Maritime Boundary Based on Regulation of Home Ministry Affair Number 76 in 2012 (Case Study: Dispute of Galang Island Border between Surabaya and Gresik) Khomsin, R. Widiastuty, T.F. Alif, E. Artanto	83
Oceans Governance: Implementation of the Precautionary Approach to Anticipate in Fisheries Crisis Chomariyah	94
Air-fuel Mixing and Fuel Flow Velocity Modeling of Multi Holes Injector Nozzle on CNG Marine Engine Semin, B. Cahyono, Amiadji, R.A. Bakar	101
The Investigation of Launching Parameters on the Motion Pattern of Freefall Lifeboat Using FSI Analysis A.F. Zakki, A. Windyandari, D.M. Bae	110
Connectivity Analysis of Port in Eastern Indonesia M.B. Zaman, I. Vanany, K.D. Awaluddin	118
Development of Risk Based Collision (RBC) Model for Tanker Ship Using AIS Data in the Malacca Straits M.B. Zaman, E. Kobayashi, N. Wakabayashi, A. Maimun	128
Agro Industrial Cluster Development Strategy Coastal Region District Banyuwangi D.L. Putri, M. Annisa, L.P. Ningrum, M. Mursid, Amiadji, Murdjito	136
Modelling of the COD, TSS, Phosphate and Nitrate Distribution Due to the Sidoarjo Mud Flow into Porong River Estuary Suntoyo, H. Ikhwan, M. Zikra, N.A. Sukmasari, G. Angraeni, H. Tanaka, M. Umeda, S. Kure	144
On Defining the Effects of Water Temperatures Increase to the Coral Reef: A Case Study of Cooling Water Discharge from a Power Generation Mukhtasor, D. Saptarini, P. Fudlailah, Mauludiyah	152
Current Characteristics and Shoreline Change at Pondok-Bali, North Coast-West Java of Indonesia H. Achiari, A. Wiyono, J. Sasaki	161
Modeling of Sediment Transport Affecting the Coastline Changes Due to Infrastructures in Batang–Central Java W. Hendriyono, M. Wibowo, B.A. Hakim, D.C. Istiyanto	166
Mitigation Plan for Future Tsunami of Seruni Beach Bantaeng A.Y. Baeda, T. Rachman, H. Umar, D.A. Suriamihardja	179
Characteristics of Sediment Concentration and Suspended Sediment Transport Due to Horizontal and Vertical Asymmetric Waves Suntoyo, W.A. Pratikto, M.M. Wijaya, H. Tanaka	186
Behavior of Wave Induced Current Around the Head of Breakwater A.B. Widagdo, R. Hidayat, J. Setiawan, A.S. Purwoko, G. Gumbira, A.R. Ispandiari, C. Murtiaji	193

Hydrodynamics Modeling of Giant Seawall in Semarang Bay B.A. Hakim, M. Wibowo, W. Kongko, M. Irfani, W. Hendriyono, G. Gumbira .....	200
Hazard and Operability Analysis (HAZOP) of Mobile Mooring System Silvianita, M.F. Khamidi, I. Rochani, D.M. Chamelia .....	208
Fault Tree Analysis for Investigation on the Causes of Project Problems Silvianita, D.S. Mahandeka, D.M. Rosyid .....	213
Dynamic Response Analysis on Submerged Floating Tunnel Due to Hydrodynamic Loads D.M. Chamelia, W. Wardhana, R.W. Prastianto, Sivianita .....	220