

# Accepted Manuscript

Genesis and evolution of the Watukosek fault system in the Lusi area (East Java)

Andrea Moscariello, Damien Do Couto, Fiammetta Mondino, Jacqueline Booth,  
Matteo Lupi, Adriano Mazzini



PII: S0264-8172(17)30382-3

DOI: [10.1016/j.marpetgeo.2017.09.032](https://doi.org/10.1016/j.marpetgeo.2017.09.032)

Reference: JMPG 3090

To appear in: *Marine and Petroleum Geology*

Received Date: 31 January 2017

Revised Date: 17 September 2017

Accepted Date: 29 September 2017

Please cite this article as: Moscariello, A., Do Couto, D., Mondino, F., Booth, J., Lupi, M., Mazzini, A., Genesis and evolution of the Watukosek fault system in the Lusi area (East Java), *Marine and Petroleum Geology* (2017), doi: 10.1016/j.marpetgeo.2017.09.032.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1  
2 **Genesis and evolution of the Watukosek fault system in**  
3 **the Lusi area (East Java)**

4  
5 Andrea Moscariello (1), Damien Do Couto (1), Fiammetta Mondino (2), Jacqueline  
6 Booth (1) Matteo Lupi (1), Adriano Mazzini (3)

7  
8 (1) Department of Earth Sciences, University of Geneva, 13 Rue des Maraichers,  
9 1205 Geneva, Switzerland,

10 (2) Leon Gaud 5, 1206 Geneva

11 (3) Center of Earth Evolution and Dynamics, University of Oslo, Sem Sælandsvei 2A,  
12 0371 Oslo, Norway

13  
14 **Abstract**

15 Detailed analysis of two-dimensional seismic lines acquired in the NE Java basin has  
16 been performed to unravel the subsurface geology of the region around the Lusi mud  
17 eruption. This work revealed the existence of a system consisting of a complex set of  
18 faults, here called the Watukosek fault system, forming triangular deformation zones  
19 converging at the top of the early Miocene Carbonates. This system continues  
20 downwards with vertical individual fault segments, often bordering the steep margins  
21 of the carbonate platforms. The analysis of data includes the interpretation of seismic  
22 lines, regional structural data inferred from basement gravity maps and present-day  
23 main direction of stress. Results suggest that a possible rotation of stress direction  
24 from N40E-S40W to N-S occurred during the post-Miocene history of the Java back  
25 arc tectonic evolution. The Watukosek fault system was first generated as a

Download English Version:

<https://daneshyari.com/en/article/8909239>

Download Persian Version:

<https://daneshyari.com/article/8909239>

[Daneshyari.com](https://daneshyari.com)