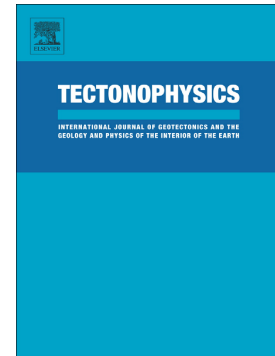


## Accepted Manuscript

The 2016 Mihoub (north-central Algeria) earthquake sequence:  
Seismological and tectonic aspects

M.F. Khelif, A. Yelles-Chaouche, Z. Benaissa, F. Semmane, H. Beldjoudi, A. Haned, A. Issaadi, A. Chami, R. Chimouni, A. Harbi, S. Maouche, G. Dabbouz, C. Aidi, A. Kherroubi



PII: S0040-1951(18)30120-3  
DOI: doi:[10.1016/j.tecto.2018.03.015](https://doi.org/10.1016/j.tecto.2018.03.015)  
Reference: TECTO 127805  
To appear in: *Tectonophysics*  
Received date: 24 July 2017  
Revised date: 17 March 2018  
Accepted date: 20 March 2018

Please cite this article as: M.F. Khelif, A. Yelles-Chaouche, Z. Benaissa, F. Semmane, H. Beldjoudi, A. Haned, A. Issaadi, A. Chami, R. Chimouni, A. Harbi, S. Maouche, G. Dabbouz, C. Aidi, A. Kherroubi , The 2016 Mihoub (north-central Algeria) earthquake sequence: Seismological and tectonic aspects. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Tecto(2017), doi:[10.1016/j.tecto.2018.03.015](https://doi.org/10.1016/j.tecto.2018.03.015)

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.

## The 2016 Mihoub (north-central Algeria) earthquake sequence: seismological and tectonic aspects

M. F. Khelif<sup>1,2</sup>, A. Yelles-Chaouche<sup>1</sup>, Z. Benaissa<sup>2</sup>, F. Semmane<sup>1</sup>, H. Beldjoudi<sup>1</sup>, A. Haned<sup>1</sup>, A. Issaadi<sup>1</sup>, A. Chami<sup>1,2</sup>, R. Chimouni<sup>1,2</sup>, A. Harbi<sup>1</sup>, S. Maouche<sup>1</sup>, G. Dabbouz<sup>1</sup>, C. Aidi<sup>1,2</sup>, A. Kherroubi<sup>1</sup>.

<sup>1</sup> *Centre de Recherché en Astronomie, Astrophysique et Géophysique, Algeria*

<sup>2</sup> *Université des Sciences et de la Technologie Houari Boumediene, Algeria*

*m.khelif@craag.dz*

### Abstract

On 28 May 2016 at 23:54 (UTC), an  $M_w$ 5.4 earthquake occurred in Mihoub village, Algeria, 60 km southeast of Algiers. This earthquake was the largest event in a sequence recorded from 10 April to 15 July 2016. In addition to the permanent national network, a temporary network was installed in the epicentral region after this shock. Recorded event locations allow us to give a general overview of the sequence and reveal the existence of two main fault segments. The first segment, on which the first event in the sequence was located, is near-vertical and trends E–W. The second fault plane, on which the largest event of the sequence was located, dips to the southeast and strikes NE–SW. A total of 46 well-constrained focal mechanisms were calculated. The events located on the E–W-striking fault segment show mainly right-lateral strike-slip (strike  $N70^\circ E$ , dip  $77^\circ$  to the SSE, rake  $150^\circ$ ). The events located on the NE–SW-striking segment show mainly reverse faulting (strike  $N60^\circ E$ , dip  $70^\circ$  to the SE, rake  $130^\circ$ ). We calculated the static stress change caused by the first event ( $M_d$ 4.9) of the sequence; the result shows that the fault plane of the largest event in the sequence ( $M_w$ 5.4) and most of the aftershocks occurred within an area of increased Coulomb stress. Moreover, using the focal

Download English Version:

<https://daneshyari.com/en/article/8908668>

Download Persian Version:

<https://daneshyari.com/article/8908668>

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