



NTGE 2018

NEW TRENDS IN GEOPHYSICS AND ENGINEERING

International Symposium

Seismotectonic Investigation of Gökova Gulf Using Seismic Reflection and Seismological Data Set

AzerAzizov, Ethem Görgün

Geophysical Eng. Department, Istanbul University-Cerrahpaşa, Istanbul

Email: azerazizov93@gmail.com

ethem.gorgun@istanbul.edu.tr

Presentation Type

All accepted proceedings will be published on the webpage of the symposium (ntge2018.istanbul.edu.tr)

ORAL

POSTER

Abstracts

21 July 2017 M_w 6.6 Gökova Gulf earthquake and its aftershock sequence in Aegean Sea are examined. Centroid moment tensors (CMT) for 50 earthquakes with moment magnitudes (M_w) between 3.5 and 6.6 are determined by applying a waveform inversion method. The mainshock is shallow focus normal faulting event at a depth of 11 km. The seismic moment (M_0) of the mainshock is estimated as 8.45×10^{18} Nm and rupture duration of the mainshock is 5s. The focal mechanisms of aftershocks are mainly normal faulting with a strike-slip component. The geometry of the moment tensors ($M_w \geq 3.5$) reveals a normal faulting regime with N-S trending direction of T-axis in the entire activated region. According to variance of the stress tensor inversion, to first order, the Gökova Gulf regions characterized by a homogeneous intraplate stress field.

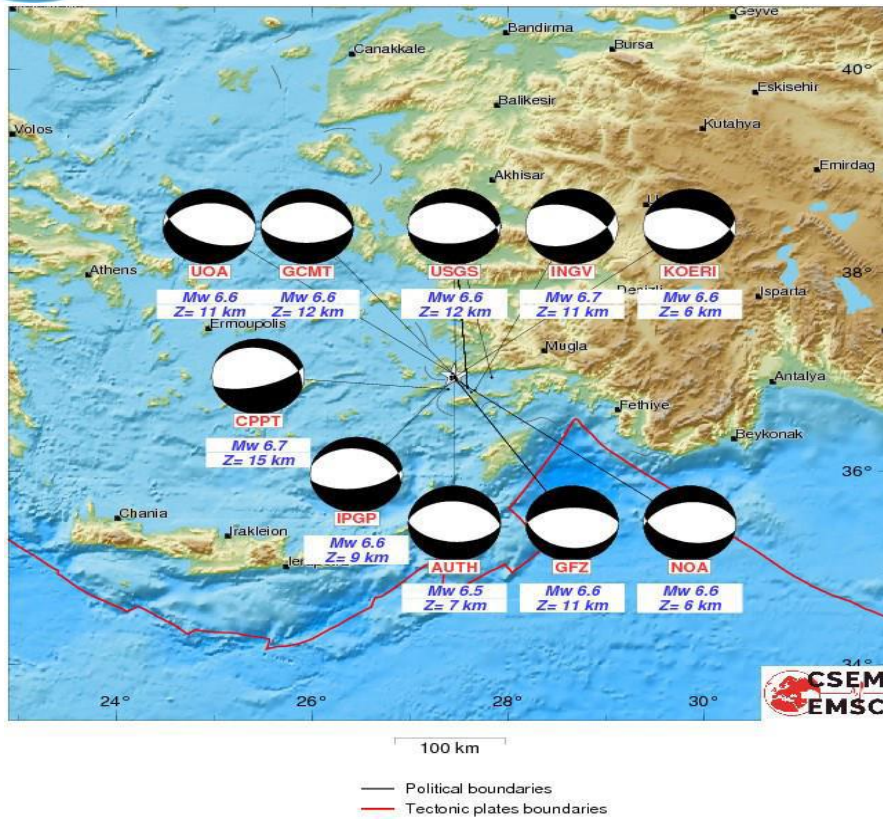
Keywords: Gökova Gulf, earthquake, mainshock



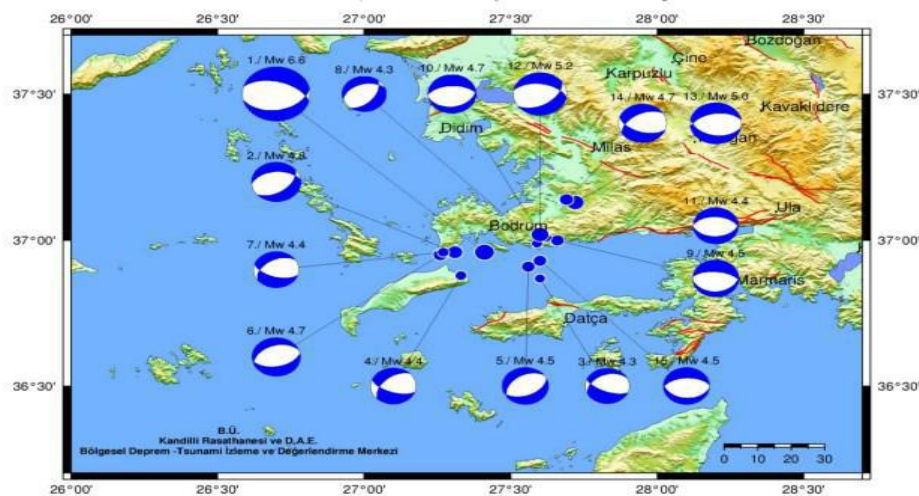
NTGE 2018

NEW TRENDS IN GEOPHYSICS AND ENGINEERING

International Symposium



Comparison of source parameters obtained from the waveform inversion with those determined by the Global CMT project, USGS, KOERI, NOAA and GFZ. Map around the source area of the 21 July 2017 event. At the bottom, all source mechanism information are indicated for each institution (https://www.emsc-csem.org/Earthquake/index_tensors.php).



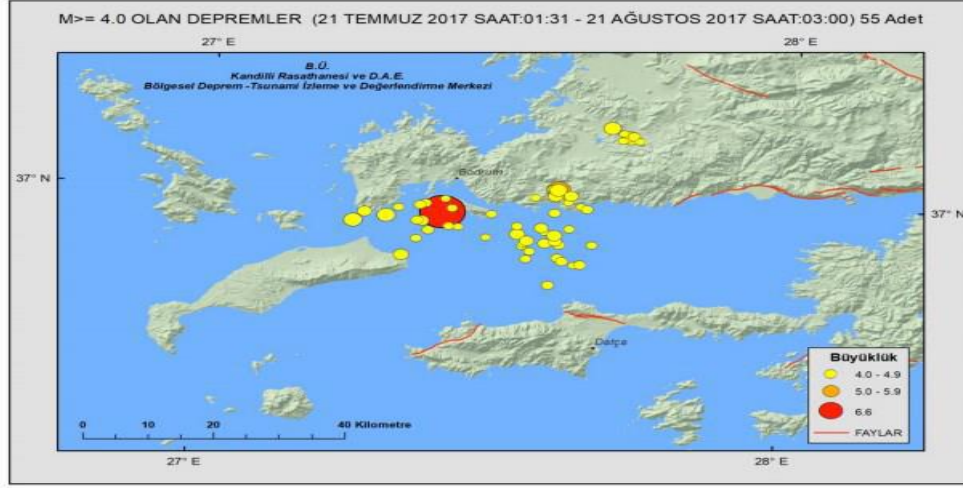
CMT Solutions for 15 Events $M_w > 4.2$ (<http://www.koeri.boun.edu.tr/sismo/2/tr/>)



NTGE 2018

NEW TRENDS IN GEOPHYSICS AND ENGINEERING

International Symposium



Earthquake Epicentres for 55 Events $M_w > 3.9$ (<http://www.koeri.boun.edu.tr>)

Acknowledgments

The Seismic data processing sections which shown at MSc. Thesis was carried out by using ECHOS processing software donated to Istanbul University Faculty of Engineering Department of Geophysical Engineering by Paradigm Inc.

References

B.Ü.KANDİLLİ RASATHANESİ ve DAE.BÖLGESEL DEPREM TSUNAMİ İZLEME ve DEĞERLENDİRME MERKEZİ-21TEMMUZ 2017 GÖKOVA KÖRFEZİ-AKDENİZ DEPREMİ RAPORU

<http://www.koeri.boun.edu.tr>

https://www.emsc-csem.org/Earthquake/index_tensors.php