

Aftershock Distribution and the Mainshock Fault Plane by MJHD method

2007/11/19

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Origin Time (USGS): 2007/11/14 15:40:50 (UTC)

Hypocenter (USGS): 22.196°S, 69.797°W, 40 km

Magnitude (Harvard CMT): $M_w = 7.7$

Data: 'Latest Earthquakes in the World - Past 7 days' by the US Geological Survey
Events Relocated: Mainshock and aftershocks until 11/15 21:12:26

Method: Modified Joint Hypocenter Determination (MJHD) by Hurukawa

Results: Length of the aftershock area: 100km

Fault plane: Nodal plane dipping eastward gently

An interplate earthquake between Nazca and South America plates

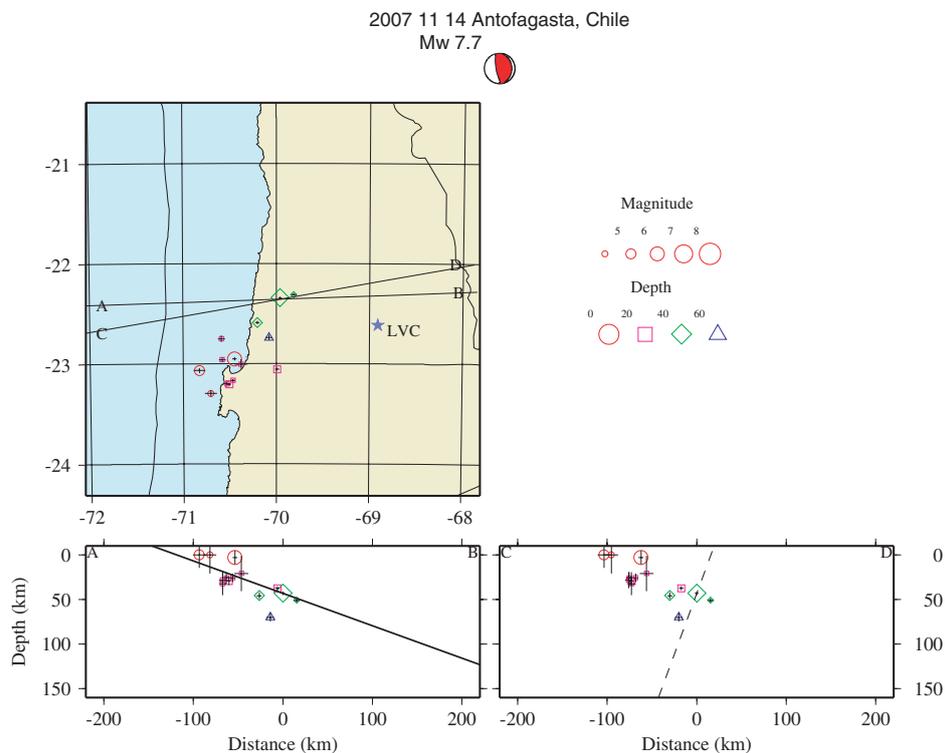


Fig. 1. Hypocenters relocated by the MJHD method. Global CMT solution is also shown. Epicentral distribution and two vertical cross sections along A-B and C-D lines, which are perpendicular to strikes of the two nodal planes, are shown. Two nodal planes are shown by lines in cross sections. The nodal plane corresponding to the fault plane is shown by a thick solid line in the A-B cross section.

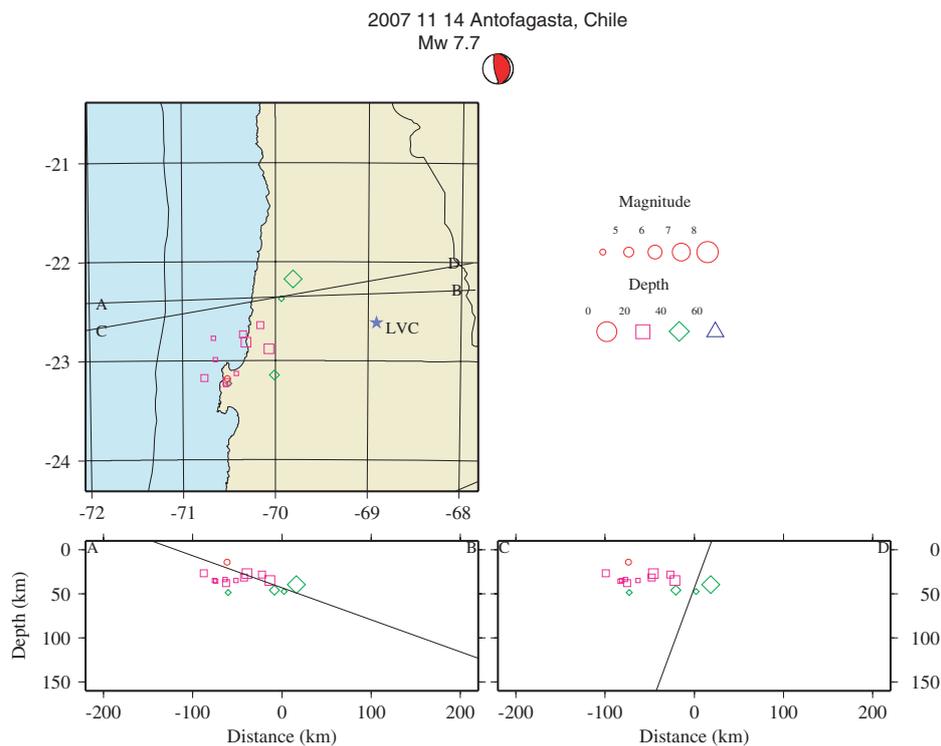


Fig.2 Hypocenters located by USGS. Two nodal planes are also shown by solid lines in cross sections.

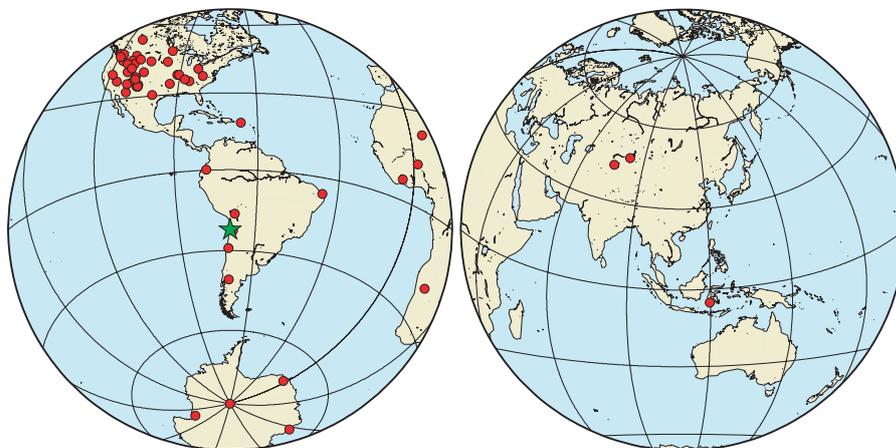


Fig. 3. Stations used in relocation.

References

- Hurukawa, N., Quick aftershock relocation of the 1994 Shikotan earthquake and its fault planes, *Geophys. Res. Lett.*, 22, 3159-3162, 1995.
- Hurukawa, N. and M. Imoto, Subducting oceanic crusts of the Philippine Sea and Pacific plates and weak-zone-normal compression in the Kanto district, Japan, *Geophys. J. Int.*, 109, 639-652, 1992.