Aftershock Distribution and the Mainshock Fault Plane by MJHD method: Application to January 12, 2010 Haiti Region Earthquake

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Origin Time (USGS): January 12, 2010 at 21:53:10 UTC
Hypocenter (USGS): 18.457°N, 72.533°W, 13 km
Magnitude (Global CMT): Mw = 7.1

Data: 'Latest Earthquakes M5.0+ in the World - Past 7 days'
by the US Geological Survey
Events Relocated: Mainshock and aftershocks until January 13 5h3m

Method: Modified Joint Hypocenter Determination (MJHD) by Hurukawa and Imoto

Results: Length of aftershock area: 50 km
Fault plane: Nodal plane striking ENE-WSW, Left-Lateral Strike-Slip Fault

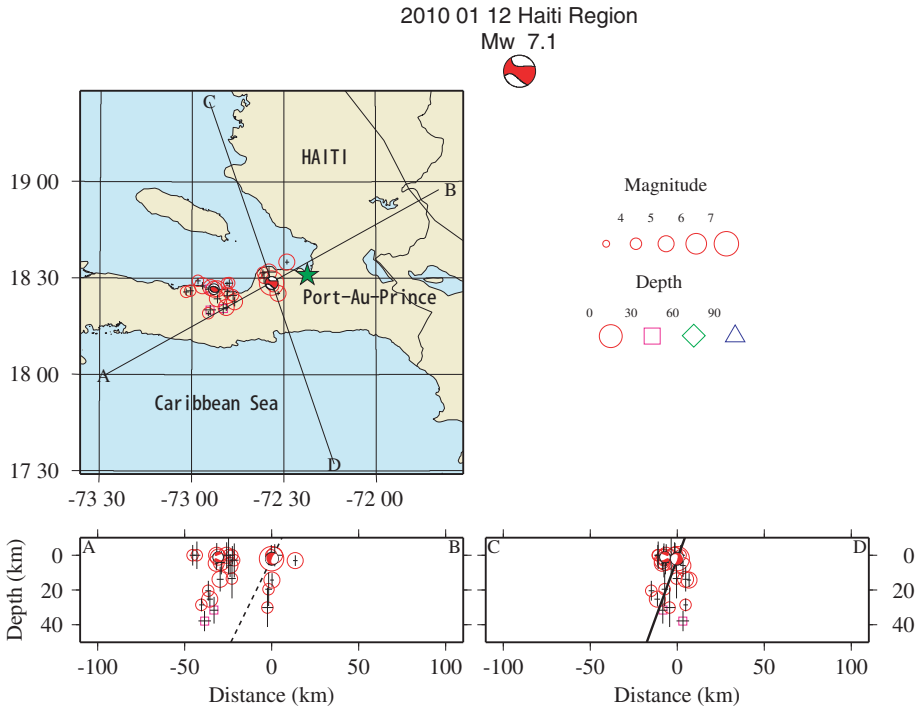

Fig. 1. Hypocenters relocated by the MJHD method. Global CMT solution is also shown. Epicentral distribution and two vertical cross sections along A-B and C-D lines, which are perpendicular to strikes of the two nodal planes, are shown. Two nodal planes are shown by lines in cross sections. The nodal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

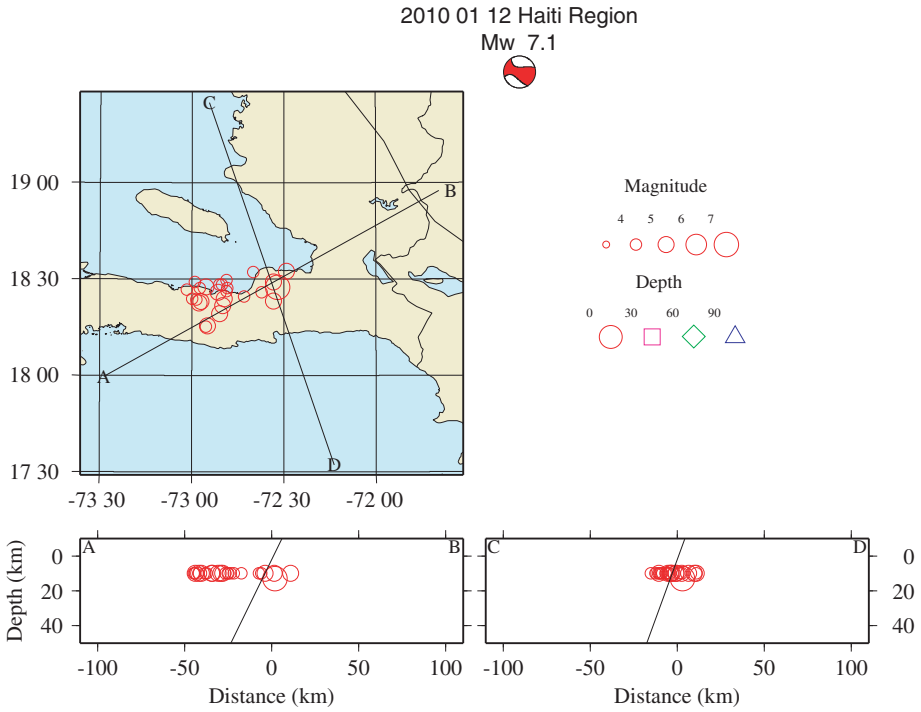

Fig.2 Hypocenters located by USGS. Two nodal planes are also shown by solid lines in cross sections.

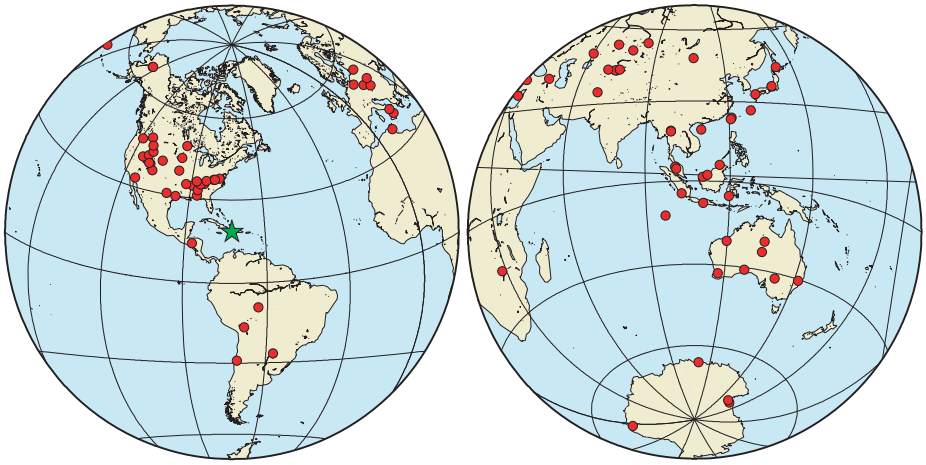

Fig. 3. Stations used in relocation.

References

Hurukawa, N., Quick aftershock relocation of the 1994 Shikotan earthquake and its fault planes, *Geophys. Res. Lett.*, 22, 3159-3162, 1995.

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