

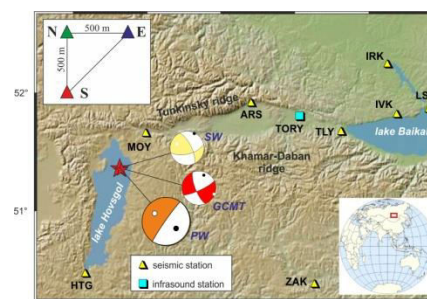
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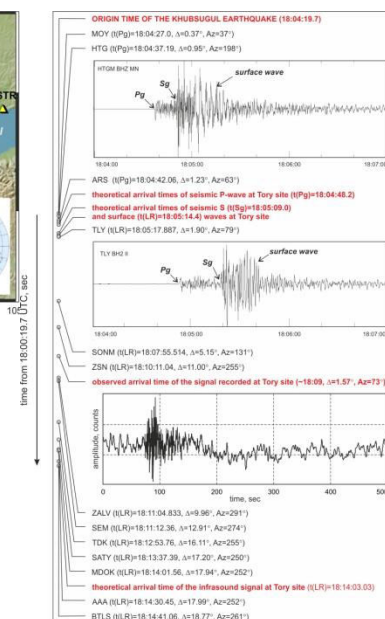
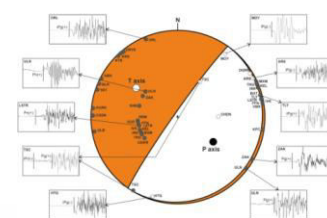
SEISMOACOUSTIC EFFECTS OF THE KHUBSUGUL EARTHQUAKE OF 5 DECEMBER 2014, $M_w=4.9$, MONGOLIA

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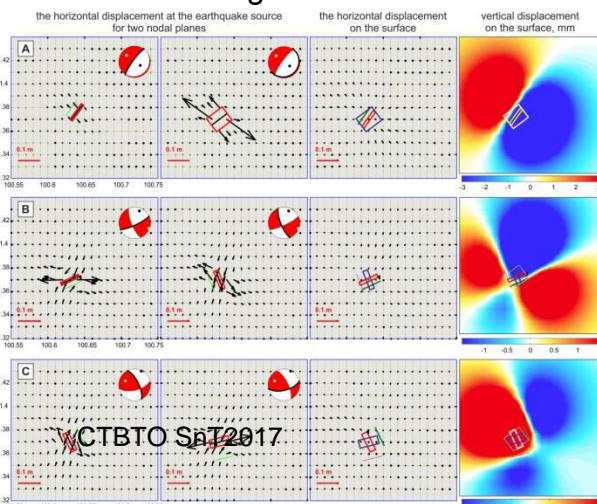
Highlight: Seismoacoustic effects of the moderate shallow Hovsgol earthquake were investigated. The infrasonic signal was recorded for this earthquake by infrasound station "Tory" at the distance 175 km. Source parameters of the earthquake were received by spectra analysis of direct body waves. The maximum displacement velocity in the source is 0.12 m/s. The results of the surface displacement modeling and high effective velocity of infrasound signal (~ 625 km/s) indicates that its occurrence is not caused by the movement of the earth's surface in the epicentral region, but by the effect of the secondary source. The position of the secondary source of infrasound signal is defined on the northern slopes of the Khamar-Daban ridge according to the data about the azimuth and arrival time of acoustic wave at the station "Tory". The interaction of surface waves with the region topography is proposed as the most probable mechanism of formation of the infrasound signal.



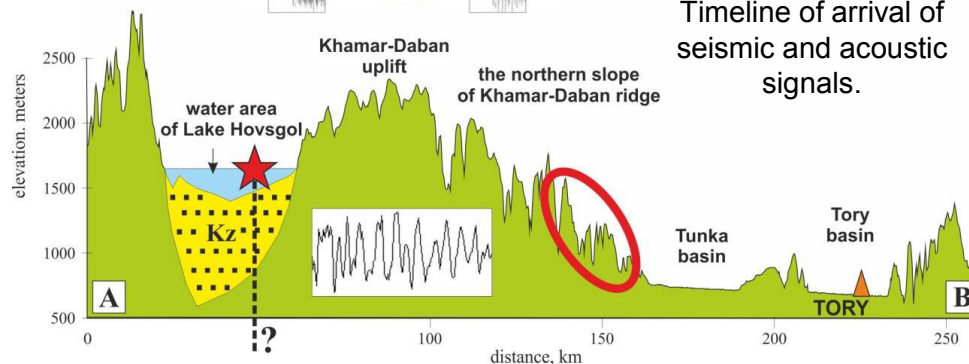
The position of the Hovsgol (Khubsugul) earthquake (big asterisk).



Timeline of arrival of seismic and acoustic signals.



Evaluation of the horizontal and vertical displacements due to the Hovsgol earthquake for the different type of focal mechanism solutions: A – dip-slip, B – strike slip with normal component and C – strike slip with thrust component.



Scheme of localization of the secondary source (is shown as oval).