

# Computation of a possible Tunguska's strewn field

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On June 30, 1908 at about 0h 14.5m UTC what is known today as the Tunguska Event (TE) occurred, most likely caused by the fall of a small rocky asteroid of about 50-60 meters in diameter over the basin of the Tunguska River (Central Siberia). Unfortunately the first expedition was made by Kulik 19 years after the event and macroscopic meteorites have never been found in epicenter site. After considering the Chelyabinsk event as a guide, we estimated the strewn field of possible macroscopic fragments of the asteroid responsible of the TE: we have reason to believe that there might be fragments with enough strength to survive the airburst and reach the ground. The strewn field, which is located about 15 to 20 km North-West from the epicenter, forms an ellipse with axes from 25 x 20 to 40 x 30 km at 3 sigma level and should be considered for the search of macroscopic bodies, even if the mud and vegetation could have made any trace disappear. Cheko Lake, which by some authors is considered an impact crater, falls about 3 km (about 4 sigma) outside these areas and, based on our results, it is unlikely that it could be a real impact crater: only if the cosmic body's trajectory had an azimuth of about 160° - 170° would be in the strewn field area, but it is not consistent with the most likely trajectory.

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