

# **Supplementary Material for: Prediction of the area affected by earthquake-induced landsliding based on seismological parameters**

Odin Marc<sup>1</sup>, Patrick Meunier<sup>2</sup>, and Niels Hovius<sup>1,3</sup>

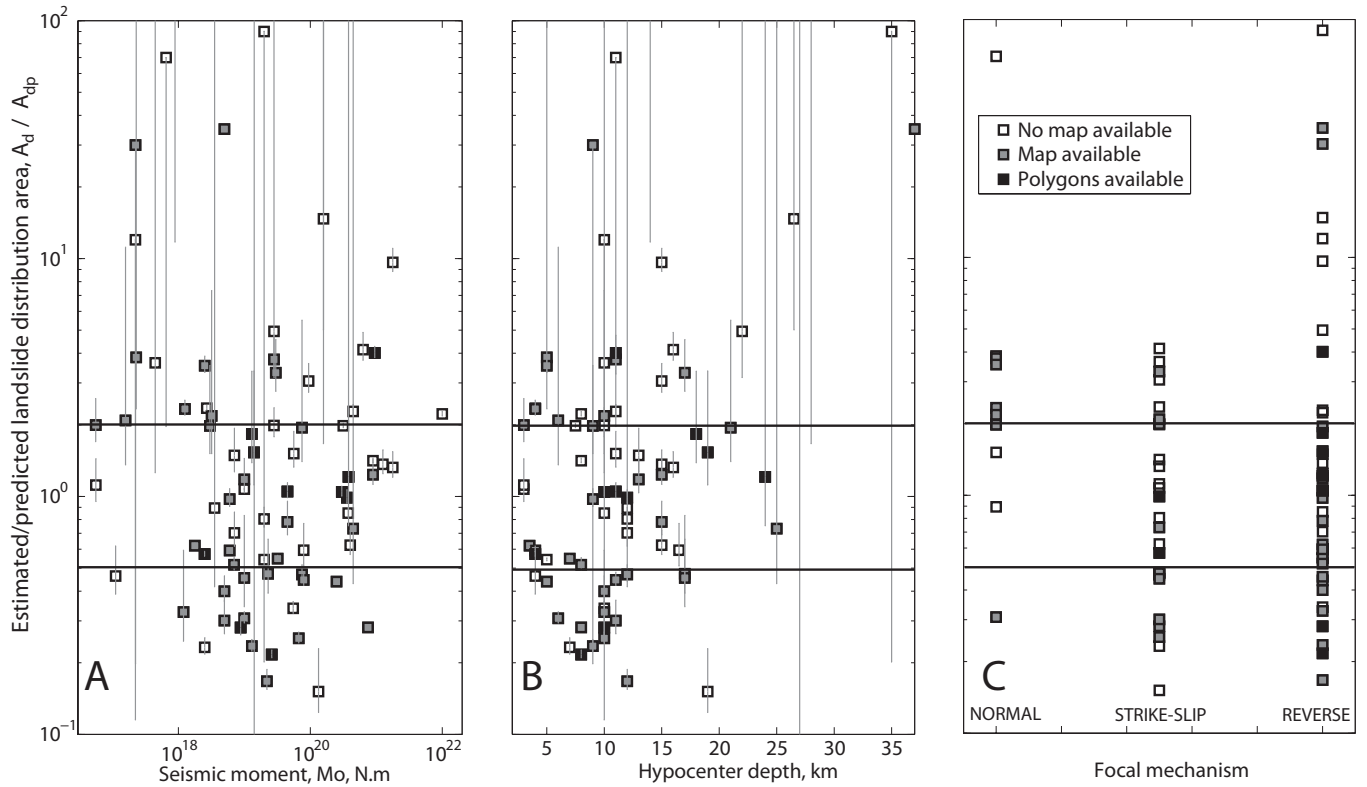
<sup>1</sup>Helmholtz Centre Potsdam, German Research Center for Geosciences (GFZ), Telegrafenberg, 14473 Potsdam, Germany.

<sup>2</sup>Ecole Normale Supérieure de Paris, Laboratoire de Géologie, 75231 Paris CEDEX 5, France

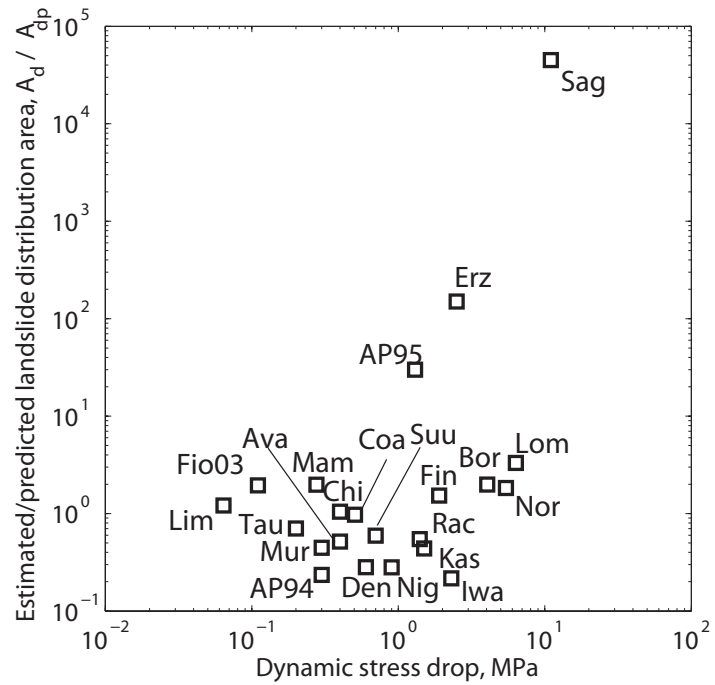
<sup>3</sup>Institute of Earth and Environmental Science, University of Potsdam, Potsdam, Germany

*Correspondence to:* Marc O. (odin.marc@unistra.fr). Now at Institut de Physique du Globe de Strasbourg, CNRS UMR 7516, University of Strasbourg, 5 rue Descartes, F-67084 Strasbourg, France

This supplementary material file contains two figures, one on the distribution of residuals of the prediction of landslide distribution area, and one on the correlation of these residuals with dynamic stress drops estimates.



**Supplementary Figure 1.** Landslide distribution area residuals (Estimated area over predicted area), plotted against seismic moment (A), hypocenter depth (B), and focal mechanism (C). Horizontal black lines delimit cases where the residuals are within a factor of 2 of a correct prediction (i.e., residual = 1). Grey vertical error bars indicates the variability in model prediction and residuals when varying the emission depth  $R_0$  within 25% of the hypocenter depth. For visibility these uncertainty ranges are not shown in (C).



**Supplementary Figure 2.** Landslide distribution area residuals (Estimated area over predicted area), plotted against earthquake dynamic stress drop. The three letters name codes are defined in Table 1. 1 MPa is a typical median stress drops value in large earthquake catalogue.