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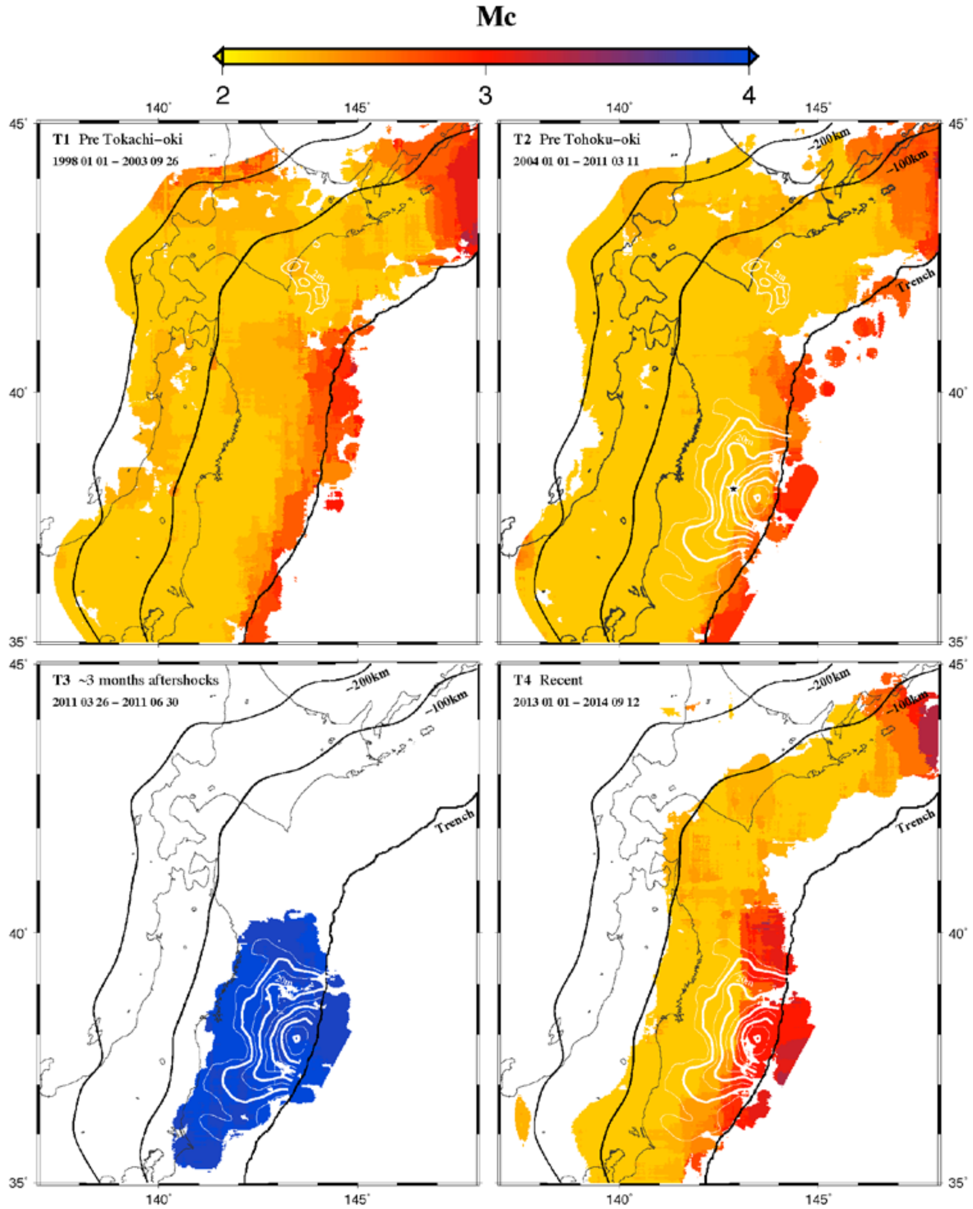
Randomness of megathrust earthquakes implied by rapid stress recovery after the Japan earthquake

Thessa Tormann, Bogdan Enescu, Jochen Woessner, Stefan Wiemer

Figure S1:



Local M_c for T1-T4. Estimated by applying a general cutoff magnitude, then the maximum curvature criterion[1] on each node, and then adding an extra 0.2[2].

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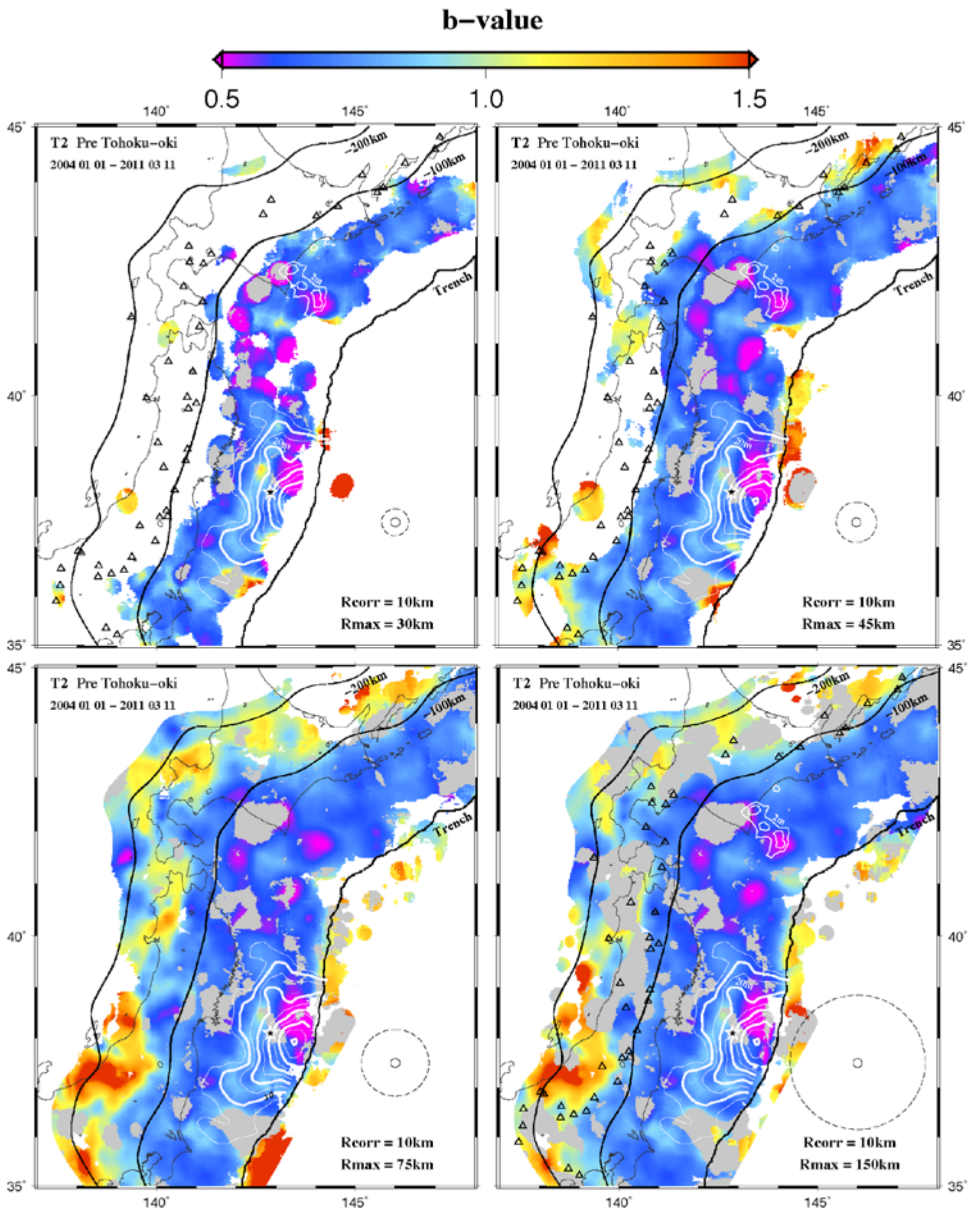
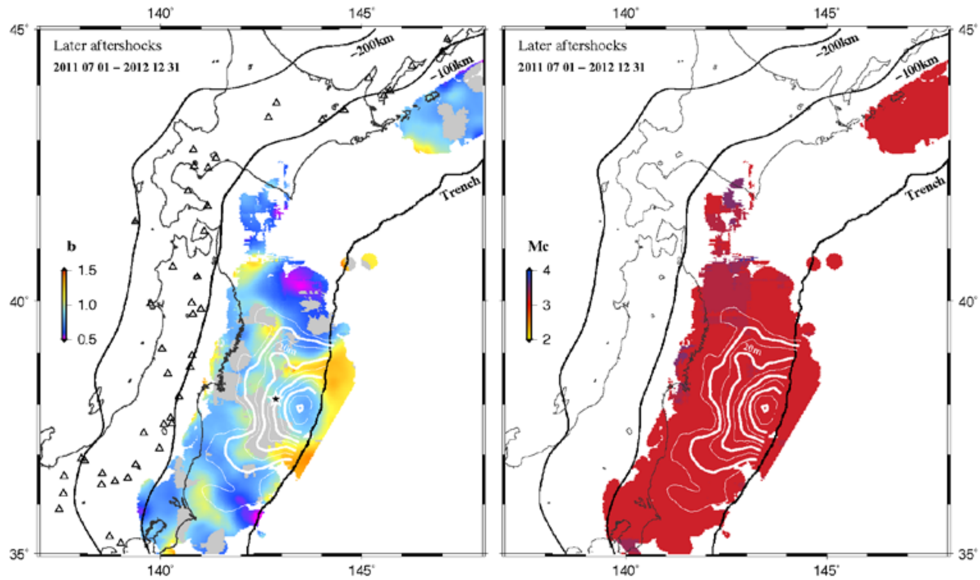
Figure S2:



Influence of different R_{max} on DEW sampling. While the coverage increases for larger radii, the resolved local *b*-values remain stable since they are strongly dominated by close-by seismicity (solid line circles show the correlation length, ~10km, of the applied sampling, i.e. events outside gain less than half the maximum possible weight, dashed circles indicate R_{max}). For very large radii, e.g. 150km, the number of nodes that cannot be described by a single power law[3] increases, as very different processes are mixed, i.e. deep slab and crustal seismicity.

Figure S3:



***b*-values for the later aftershock sequence.** (Left) *b*-values, Grey nodes: non-linear FMDs[3], (Right) Local M_c for general cutoff M≥3.0. star: 2011 M9 Tohoku-Oki epicenter, white contours: 5-50m slip for Tohoku-Oki[4]. We note that in contrast to the other time periods, the maps for this time period are not as robust and therefore less reliable. This is likely due to strong temporal heterogeneity in both, M_c and *b* throughout that period.

References:

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