

1 ***Supplementary Materials of***

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3 **A functional tool to explore the reliability of micro-earthquake focal**
4 **mechanism solution for seismotectonic purposes**

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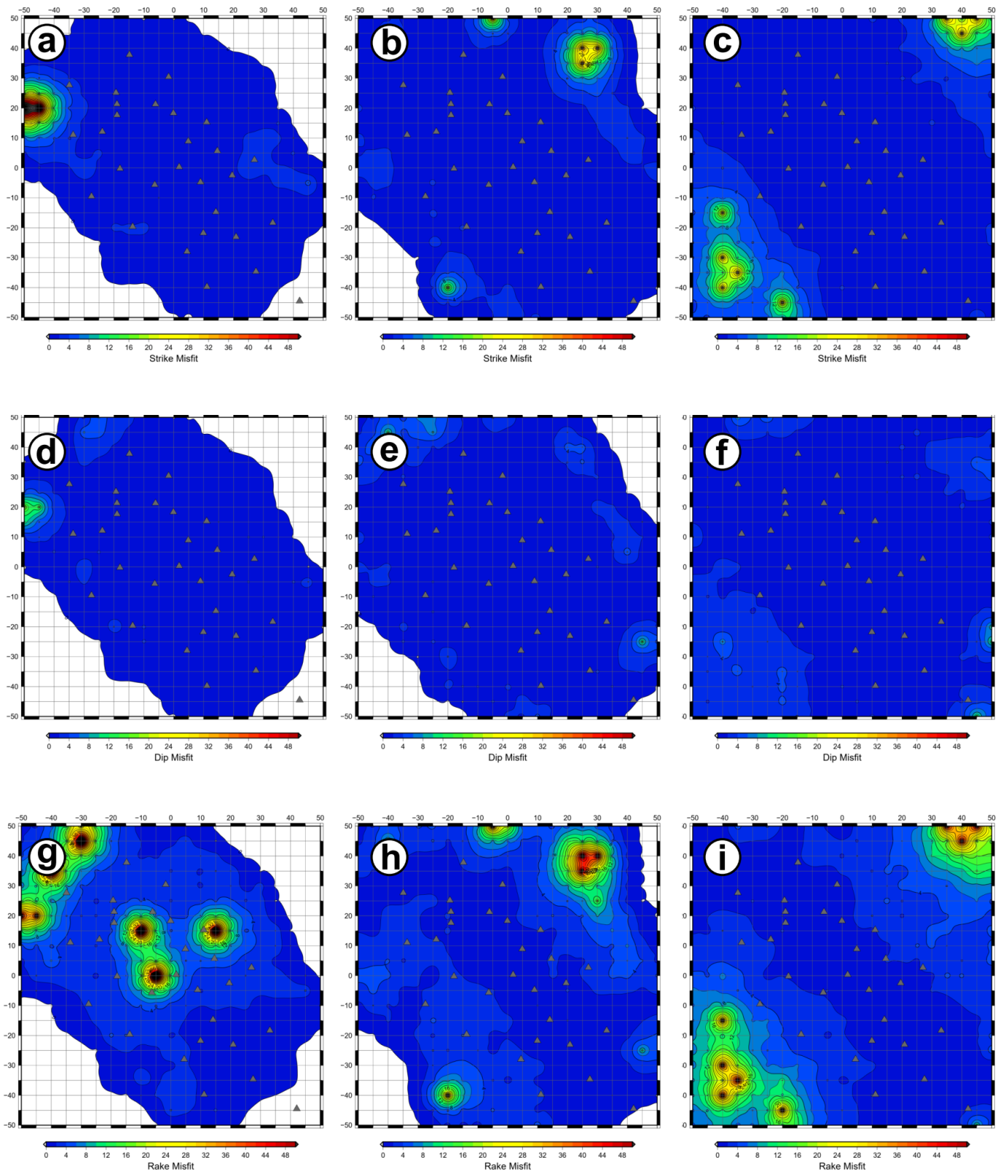
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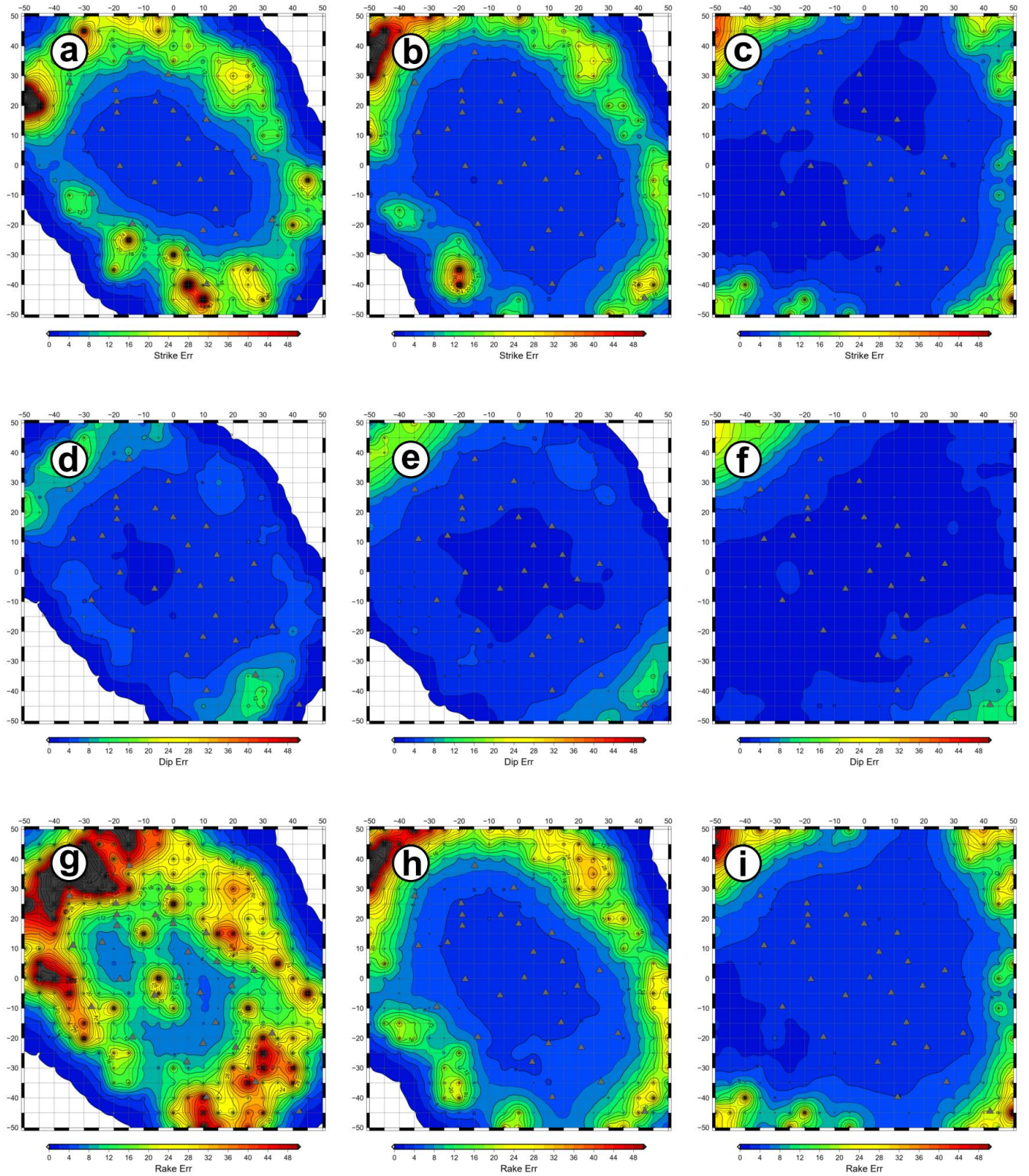


46 **Figure S1.** FMM (focal mechanism parameter misfit) maps for retrieved focal mechanisms with D3
47 datasets as input data and simulating earthquakes with M1 (a, d, g), M2 (b, e, h) and M3 (c, f, i)
48 magnitudes and FM2 theoretical fault plane solution at 10 km depth. a, b, c refer to strike misfit; d, e,
49 f refer to dip misfit; g, h, i refer to rake misfit. The level of gaussian noise is set to 5%.

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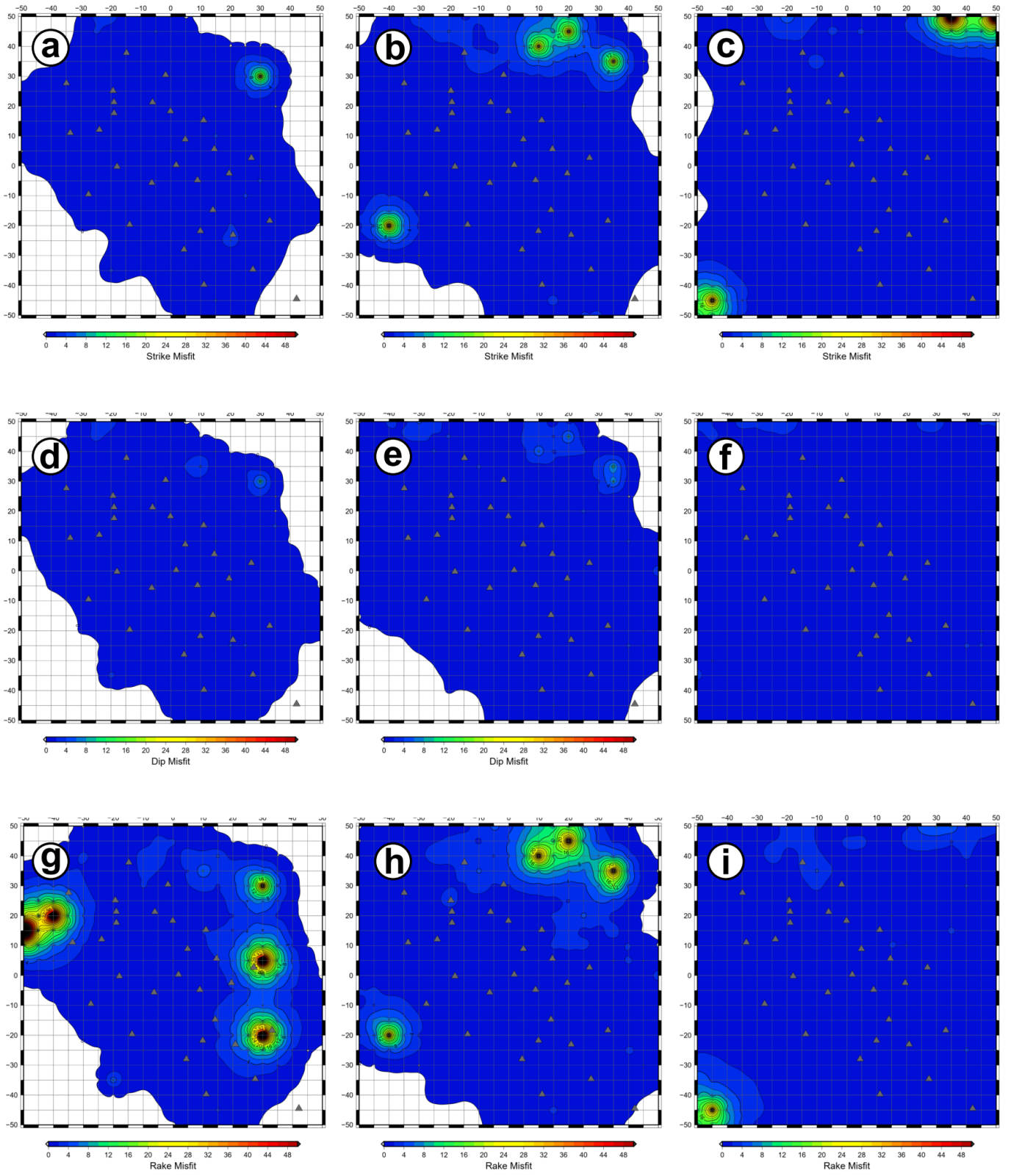
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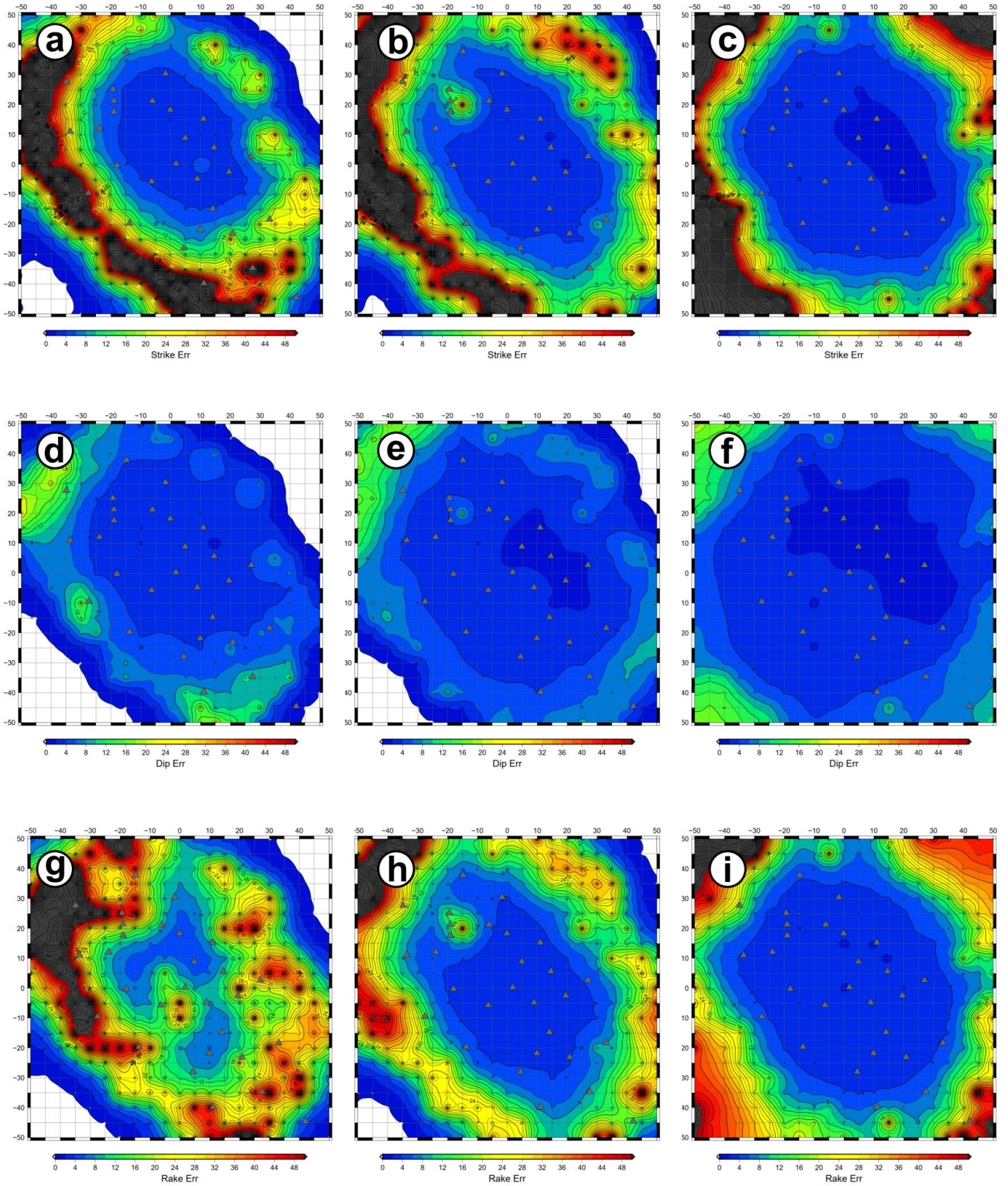
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 54 **Figure S2.** FME (strike, dip and rake error) maps for retrieved focal mechanisms with D3 datasets as
 55 input data and simulating earthquakes with M1 (a, d, g), M2 (b, e, h) and M3 (c, f, i) magnitudes and

56 FM2 theoretical fault plane solution at 10 km depth. a, b, c refer to strike error; d, e, f refer to dip error;
57 g, h, i refer to rake error. The level of gaussian noise is set to 5%.
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61 **Figure S3.** FMM (focal mechanism parameter misfit) maps for retrieved focal mechanisms with D3
62 datasets as input data and simulating earthquakes with M1 (a, d, g), M2 (b, e, h) and M3 (c, f, i)
63 magnitudes and FM3 theoretical fault plane solution at 10 km depth. a, b, c refer to strike misfit; d, e,
64 f refer to dip misfit; g, h, i refer to rake misfit. The level of gaussian noise is set to 5%.
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 74 **Figure S4.** FME (strike, dip and dake error) maps for retrieved focal mechanisms with D3 datasets as
 75 input data and simulating earthquakes with M1 (a, d, g), M2 (b, e, h) and M3 (c, f, i) magnitudes and

76 FM3 theoretical fault plane solution at 10 km depth. a, b, c refer to strike error; d, e, f refer to dip error;
77 g, h, i refer to rake error. The level of gaussian noise is set to 5%.

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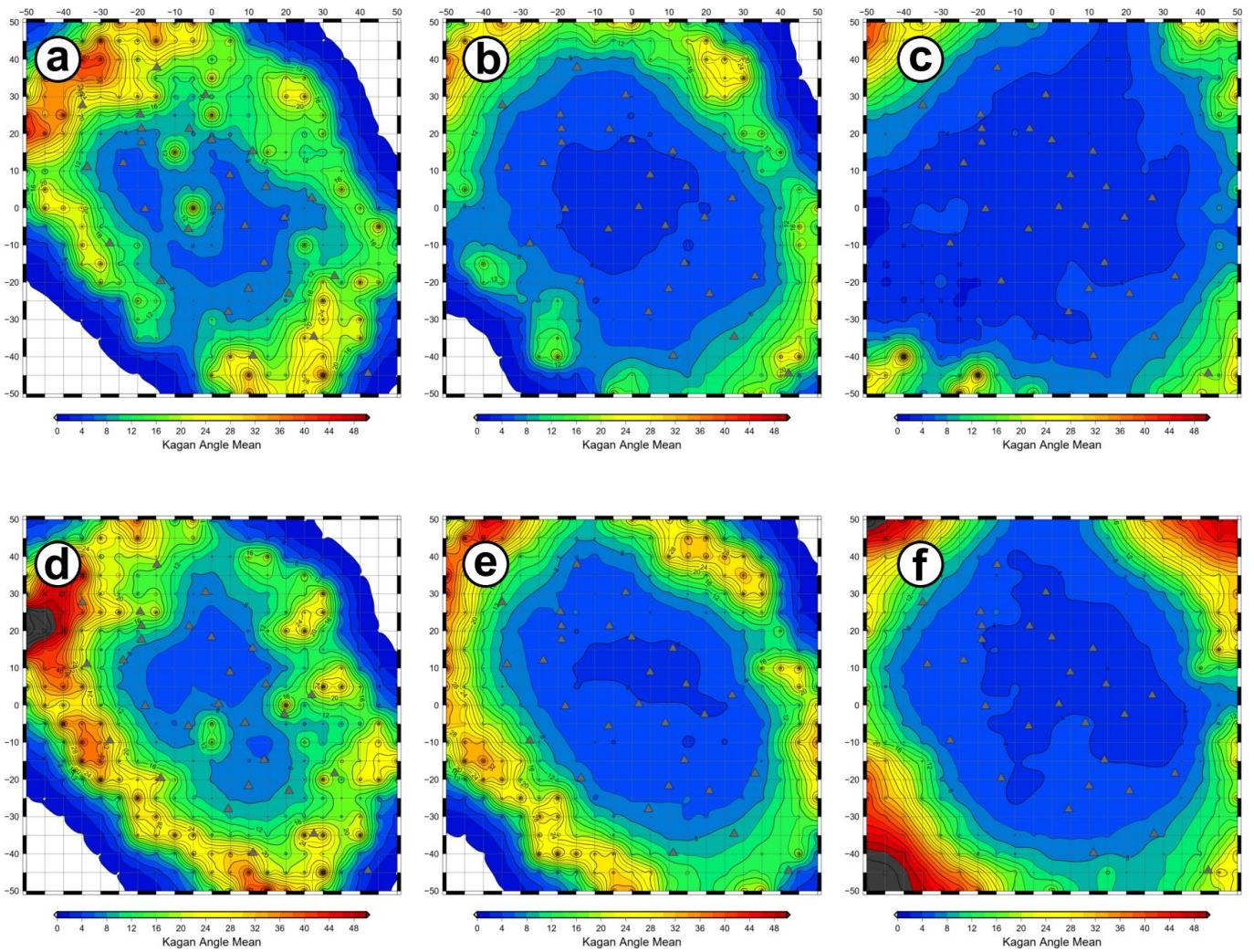
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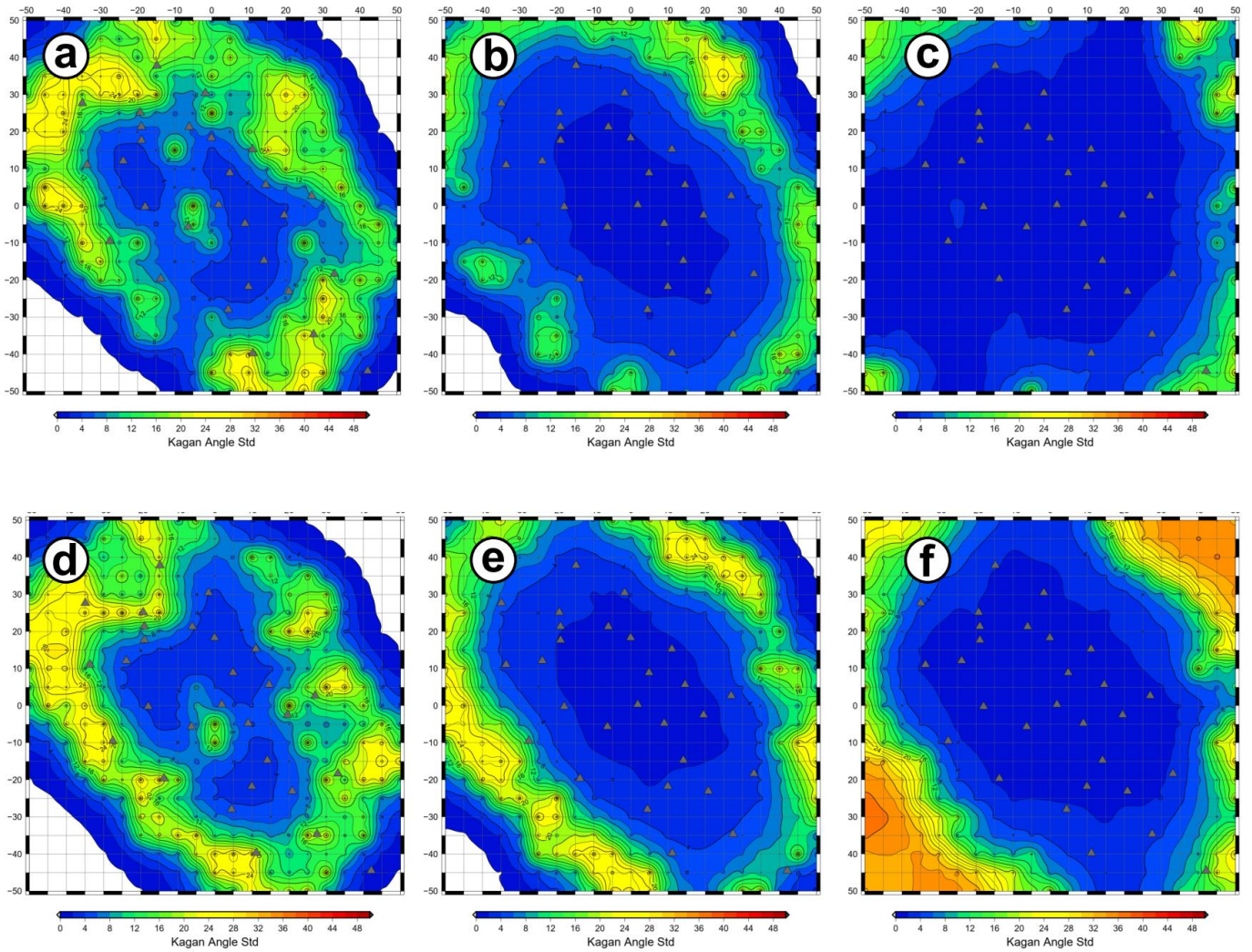
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 96 **Figure S5** KAA (Kagan angle average) maps for retrieved focal mechanisms with D3 datasets as input
 98 data and simulating earthquakes with M1 (a, d), M2 (b, e) and M3 (c, f) magnitudes and FM2 (a, b, c)
 99 and FM3 (d, e, f) theoretical fault plane solution. The level of gaussian noise is set to 5%.



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Figure S6. KAS (Kagan angle standard deviation) maps for retrieved focal mechanisms with D3 datasets as input data and simulating earthquakes with M1 (a, d), M2 (b, e) and M3 (c, f) magnitudes and FM2 (a, b, c) and FM3 (d, e, f) theoretical fault plane solution. The level of gaussian noise is set to 5%.