Supplementary Information

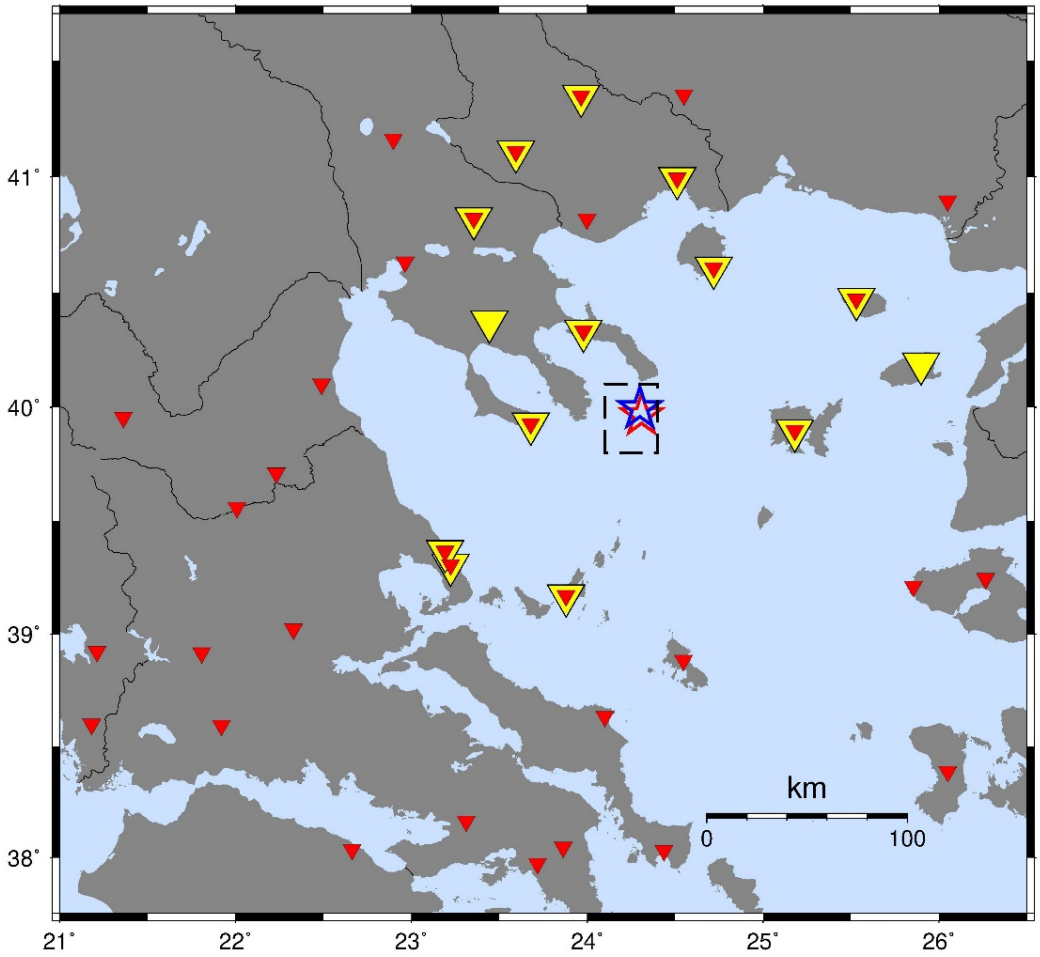

Figure S1: Locations of the stations used for earthquake relocations (yellow triangles) and the stations used in at least one focal mechanism calculation (red triangles). The black dashed box shows the location of the seismicity cluster and the two mainshocks are depicted by the red (2020 M_w5.3) and the blue (2022 M_w5.4) star.

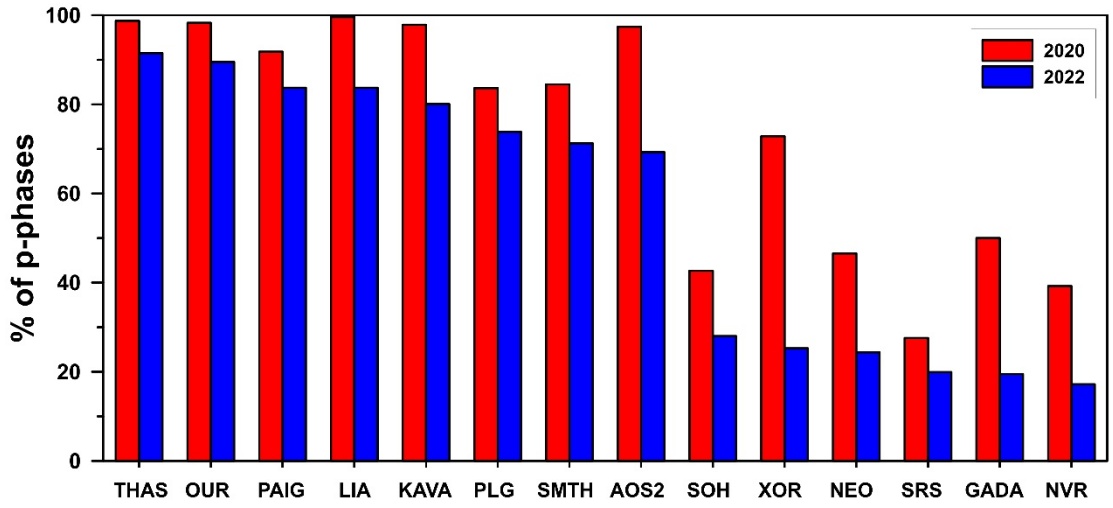

Figure S2: The 14 seismological stations used for the earthquake relocation procedure. Red and blue bars indicate the participation percentage of each station (having at least one p-phase pick) to the manually detected events of the 2020 and 2022 sequences respectively

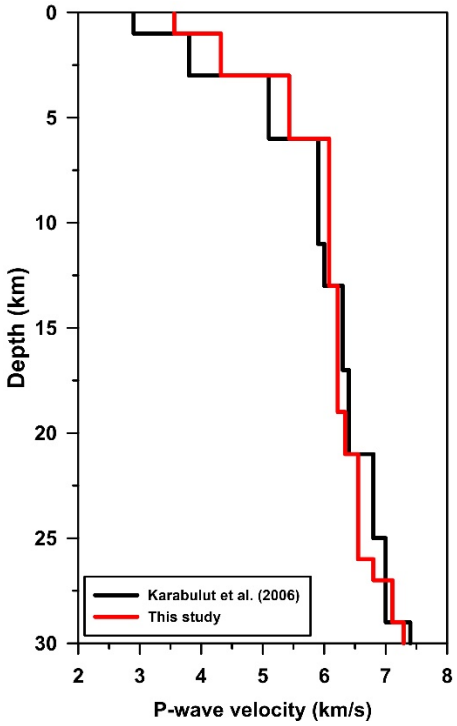

Figure S3: The 1-D crustal velocity model (red) constructed in this study by applying the VELEST algorithm along with the one proposed by Karabulut et al. (2006) as a reference model.

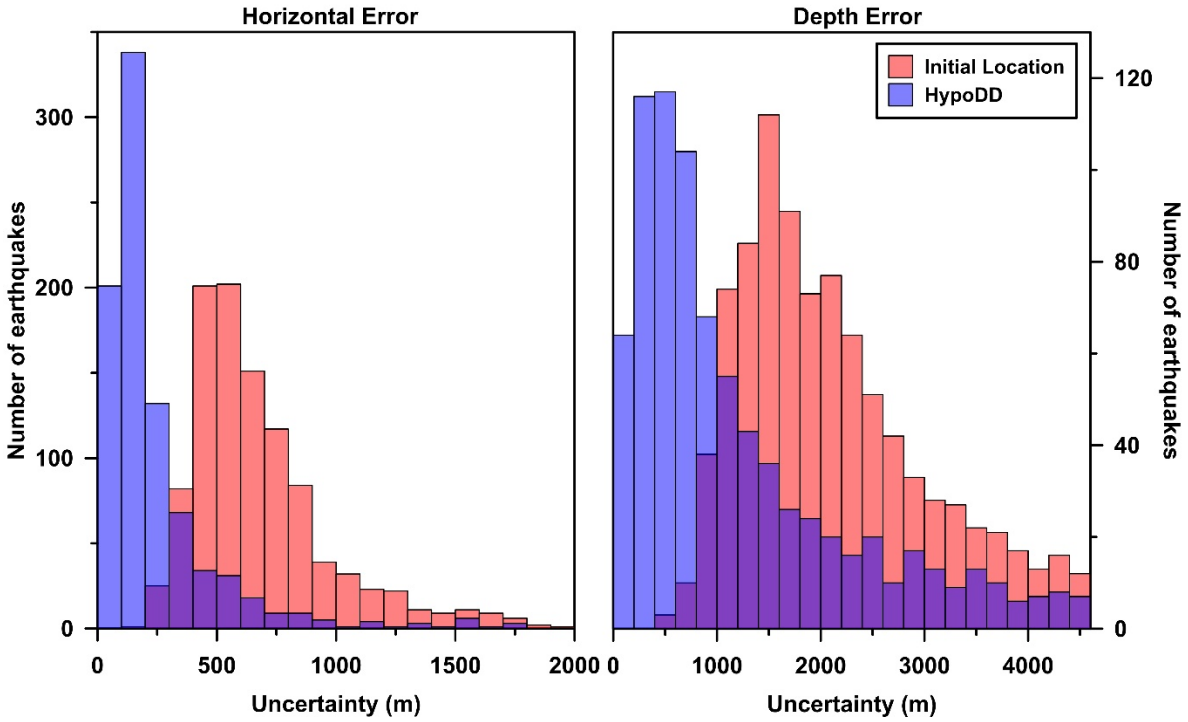

Figure S4: Location differences among the initially located catalog using Hypoinverse and the catalog after double difference relocation.

Table S1: Complete list of the focal mechanism parameters along with their uncertainty.

ID	Strike1 (°)	Dip1 (°)	Rake1 (°)	Strike2 (°)	Dip2 (°)	Rake2 (°)	Depth (km)
	(**Best solution** / Mean solution / Standard Deviation)						
1	**251** / 244 / 028	**81** / 81 / 05	**176** / 132 / 098	**334** / 295 / 089	**86** / 84 / 04	**009** / -006 / 055	**8.37**/7.93/1.11
2	**240** / 239 / 020	**73** / 73 / 04	**-162** /-159 / 029	**145** / 146 / 013	**73** / 73 / 04	**-018** / -018 / 006	**6.44**/6.04/0.34
3	**251** / 250 / 006	**58** / 60 / 03	**-132** /-133 / 006	**131** / 131 / 004	**51** / 51 / 03	**-043** / -041 / 006	**4.99**/5.07/0.37
4	**166** / 191 / 062	**82** / 83 / 05	**028** / 020 / 022	**072** / 071 / 003	**63** / 62 / 05	**172** / 120 / 123	**7.49**/6.68/1.64
5	**310** / 313 / 018	**52** / 57 / 06	**-071** /-064 / 027	**101** / 097 / 018	**41** / 45 / 06	**-113** / -117 / 034	**6.71**/6.94/0.94
6	**239** / 227 / 044	**83** / 80 / 06	**-166** /-151 / 061	**147** / 150 / 029	**76** / 73 / 06	**-007** / -010 / 009	**6.69**/6.82/0.68
7	**245** / 247 / 007	**58** / 56 / 04	**-133** /-130 / 010	**125** / 123 / 007	**52** / 52 / 04	**-043** / -047 / 011	**6.01**/6.09/0.34
8	**185** / 185 / 007	**68** / 68 / 05	**018** / 014 / 013	**088** / 089 / 007	**73** / 76 / 05	**157** / 157 / 013	**8.11**/8.23/0.38
9	**239** / 237 / 047	**61** /67 / 12	**-148** /-117 / 076	**132** / 120 / 036	**63** / 68 / 11	**-033** / -034 / 066	**4.16**/4.36/0.45
10	**238** / 238 / 009	**65** / 64 / 07	**-152** /-146 / 017	**135** / 132 / 017	**66** / 62 / 06	**-028** / -031 / 016	**4.48**/5.32/1.22
11	**232** / 235 / 031	**62** / 05 / 07	**-151** /-135 / 050	**128** / 122 / 024	**65** / 64 / 07	**-032** / -035 / 043	**4.16**/4.17/0.15
12	**336** / 337 / 018	**65** / 68 / 09	**-030** /-025 / 014	**079** / 82 / 018	**63** / 67 / 09	**-151** / -151 / 034	**5.63**/6.21/1.69

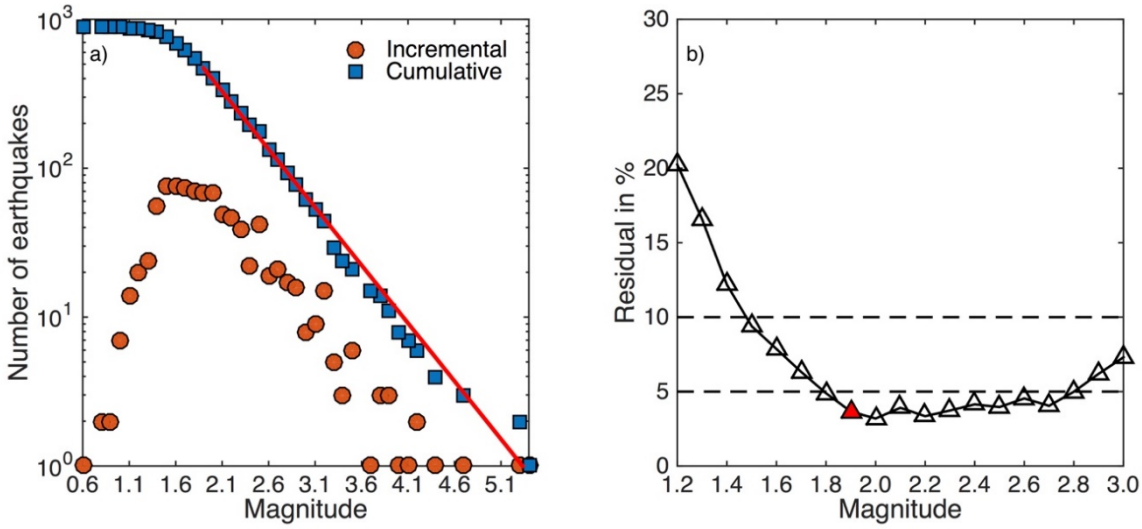

Figure S5: Magnitude of completeness, m_c, calculation via the Goodness-of-Fit (GFT) method for the period 2019-2023. (a) The Frequency-Magnitude Distribution (FMD) of the incremental and the cumulative number of events (orange circles and blue squares, respectively). The red straight line represents the FMD part above the magnitude of completeness. (b) The percentage of residuals between the observed FMD and the ideal synthetic power law as a function of the minimum magnitude cut-off of the catalog. The red triangle indicates the first magnitude bin above the 5% of residuals.