Supplementary material to:

Arrival angles of teleseismic fundamental mode Rayleigh waves across AlpArray

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Figures S1 – S19

Online-only supplementary material consists of figures S1 – S19. They follow the same scheme as Fig. 11. Arrival-angle deviations for eight selected periods for each event are shown. Note that the number of subarrays for each period generally differs, since we only use subarrays with mean residual lower than 2.0 s for the given period. Arrows show the direction of wave propagation. White dotted lines are the great circles spaced equally with a distance corresponding approximately to a wavelength of 50 s period. The position of the great-circle lines is kept for all the periods to allow for comparison of the stripe position among the different periods. For the Greece event (close to the AlpArray region, Fig. S9), the great-circle lines are set to be 10° apart. For the Indonesia event (Fig. S14), we added 12° to all the arrival-angle deviations, see text and the caption to Fig. 9.

Fig. S1

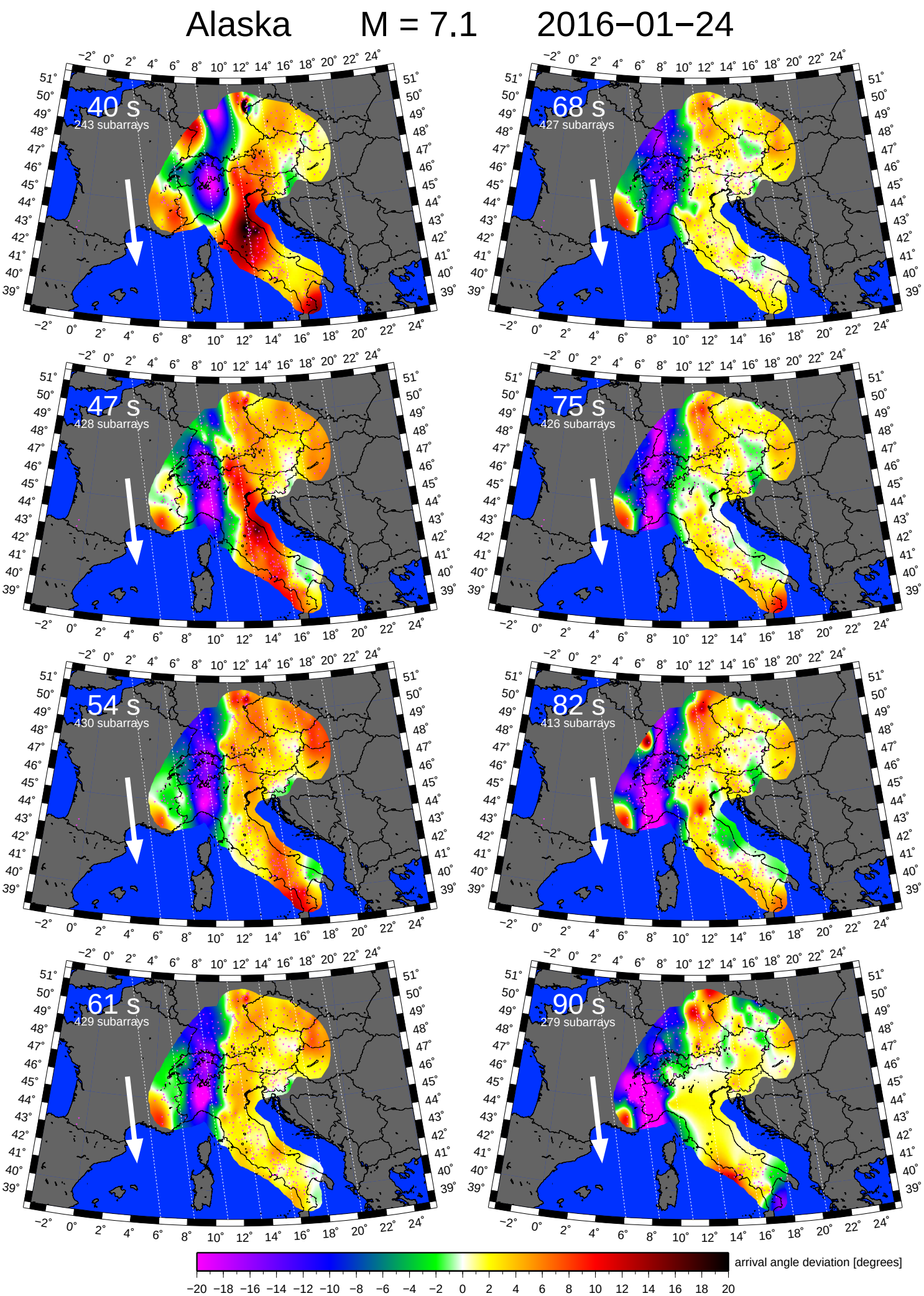
Alaska M = 7.1 2016−01−24
40 s
243 subarrays
68 s
427 subarrays
47 s
428 subarrays
75 s
426 subarrays
54 s
430 subarrays
82 s
413 subarrays
61 s
429 subarrays
90 s
279 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S2

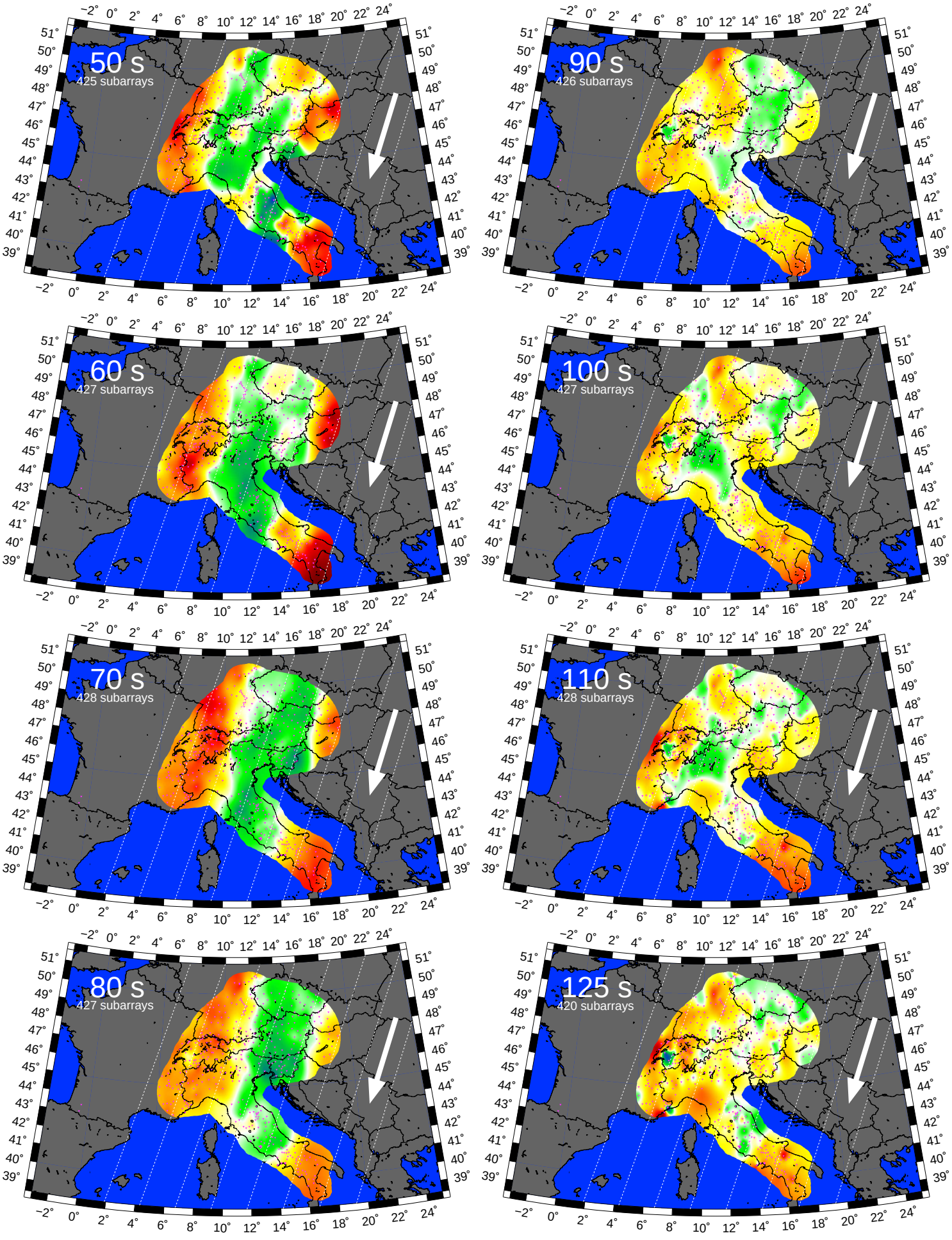
Kamchatka M = 7.2 2016−01−30
50 s
425 subarrays
90 s
426 subarrays
60 s
427 subarrays
100 s
427 subarrays
70 s
428 subarrays
110 s
428 subarrays
80 s
427 subarrays
125 s
420 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S3

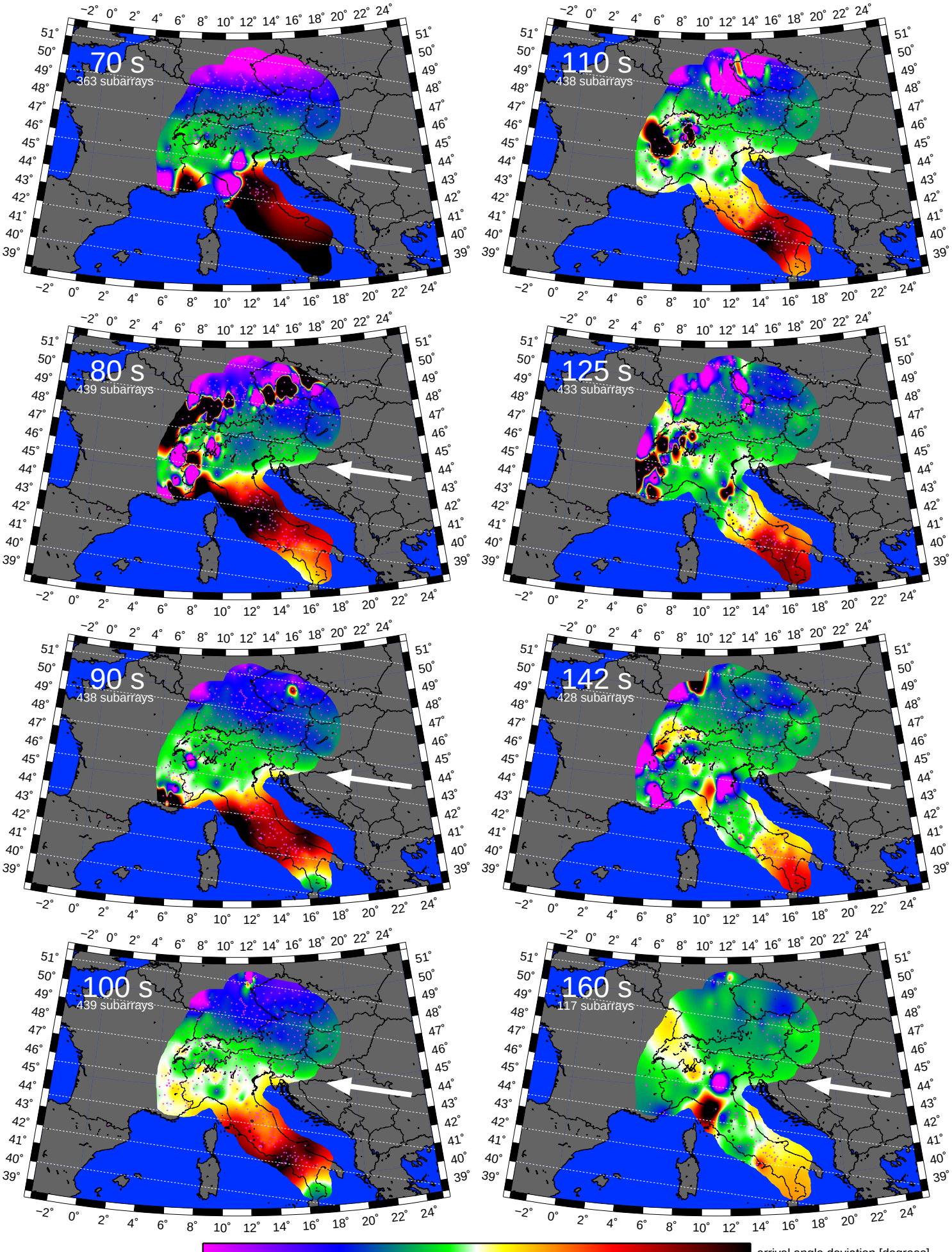
Sumatra M = 7.8 2016−03−02
70 s
363 subarrays
110 s
438 subarrays
80 s
439 subarrays
125 s
433 subarrays
90 s
438 subarrays
142 s
428 subarrays
100 s
439 subarrays
160 s
117 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S4

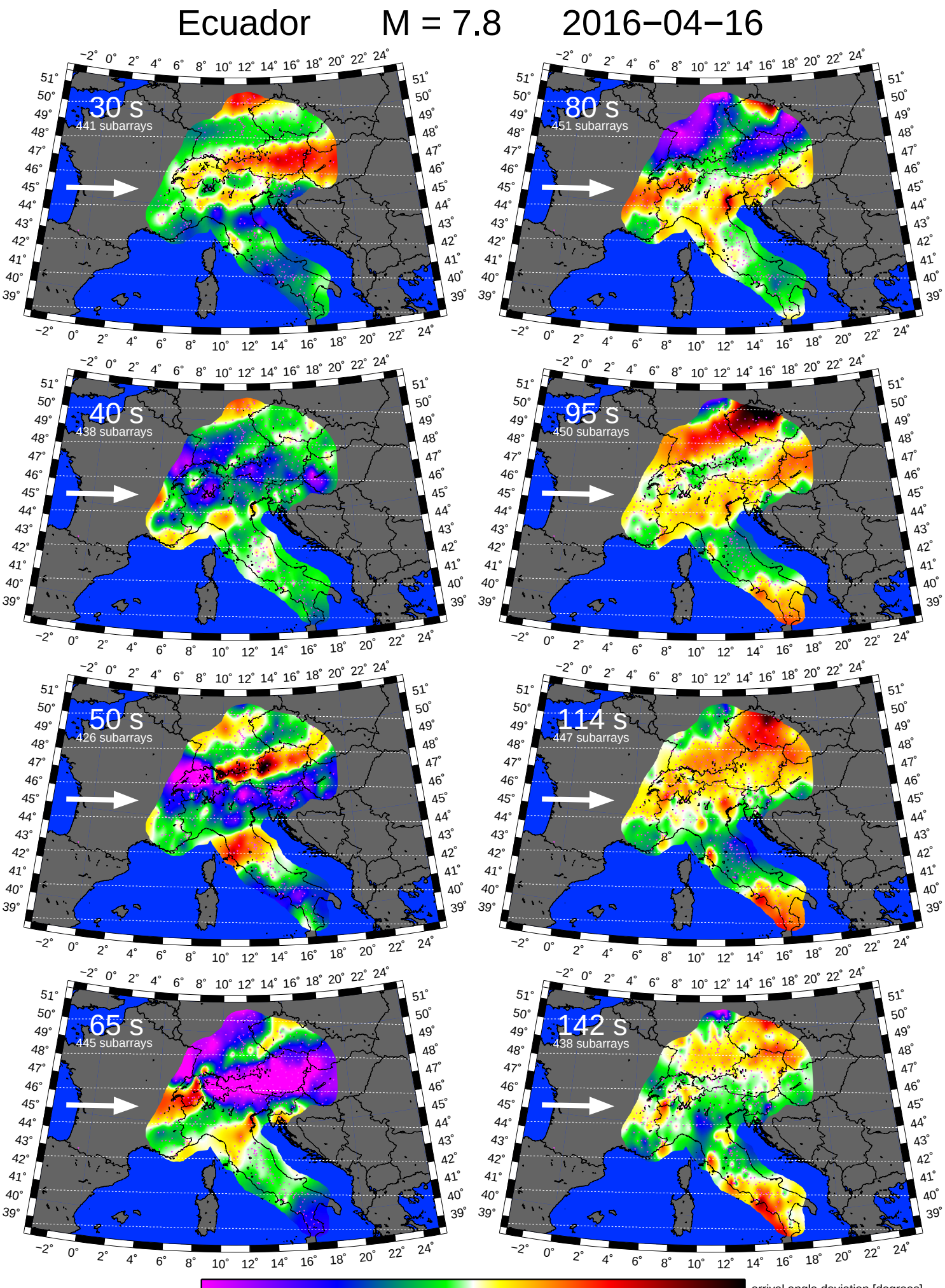
Ecuador M = 7.8 2016−04−16
30 s
441 subarrays
80 s
451 subarrays
40 s
438 subarrays
95 s
450 subarrays
50 s
426 subarrays
114 s
447 subarrays
65 s
445 subarrays
142 s
438 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S5

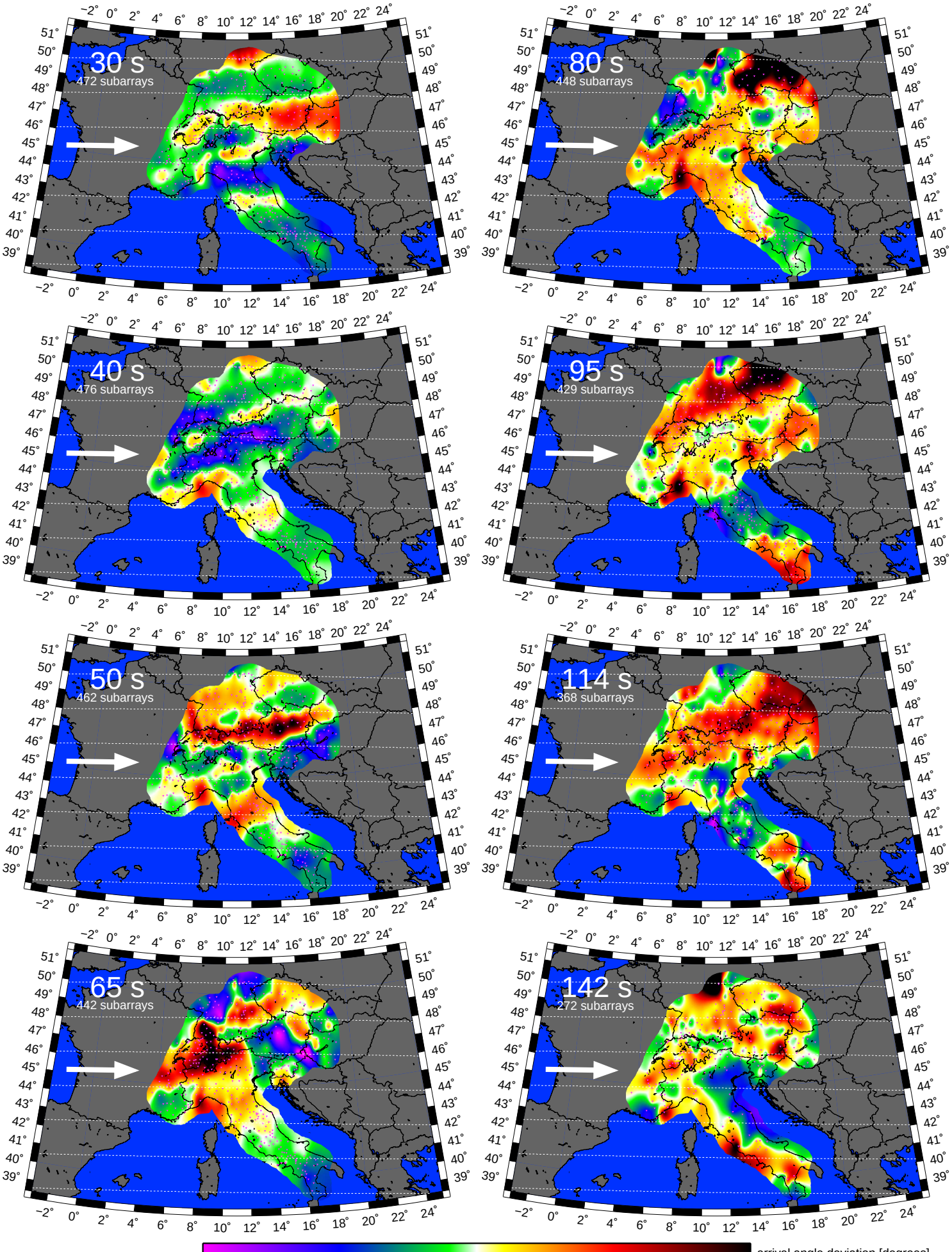
Ecuador M = 6.9 2016−05−18
30 s
472 subarrays
80 s
448 subarrays
40 s
476 subarrays
95 s
429 subarrays
50 s
462 subarrays
114 s
368 subarrays
65 s
442 subarrays
142 s
272 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S6

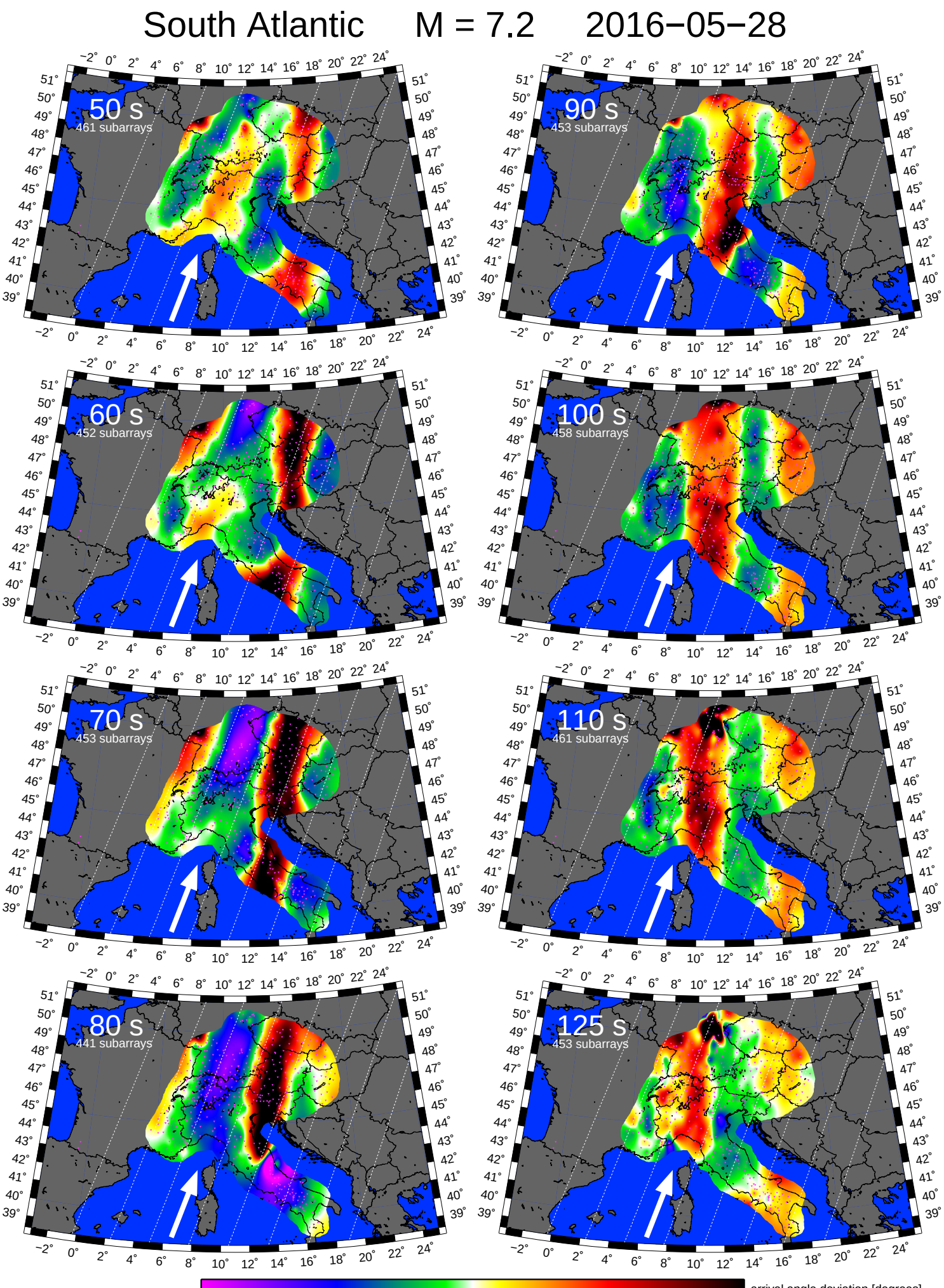
South Atlantic M = 7.2 2016−05−28
50 s
461 subarrays
90 s
453 subarrays
60 s
452 subarrays
100 s
458 subarrays
70 s
453 subarrays
110 s
461 subarrays
80 s
441 subarrays
125 s
453 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S7

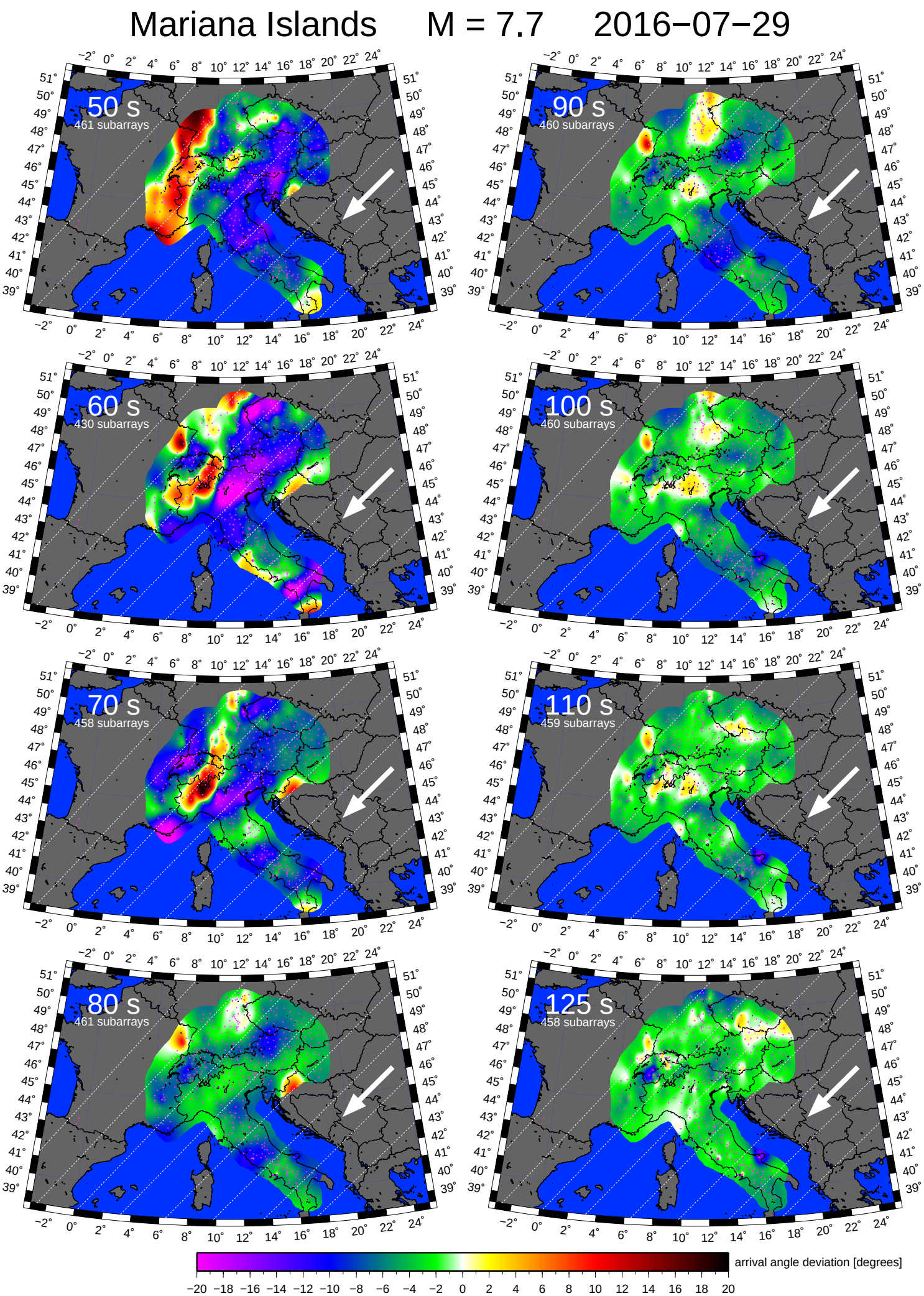
Mariana Islands M = 7.7 2016−07−29
50 s
461 subarrays
90 s
460 subarrays
60 s
430 subarrays
100 s
460 subarrays
70 s
458 subarrays
110 s
459 subarrays
80 s
461 subarrays
125 s
458 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S8

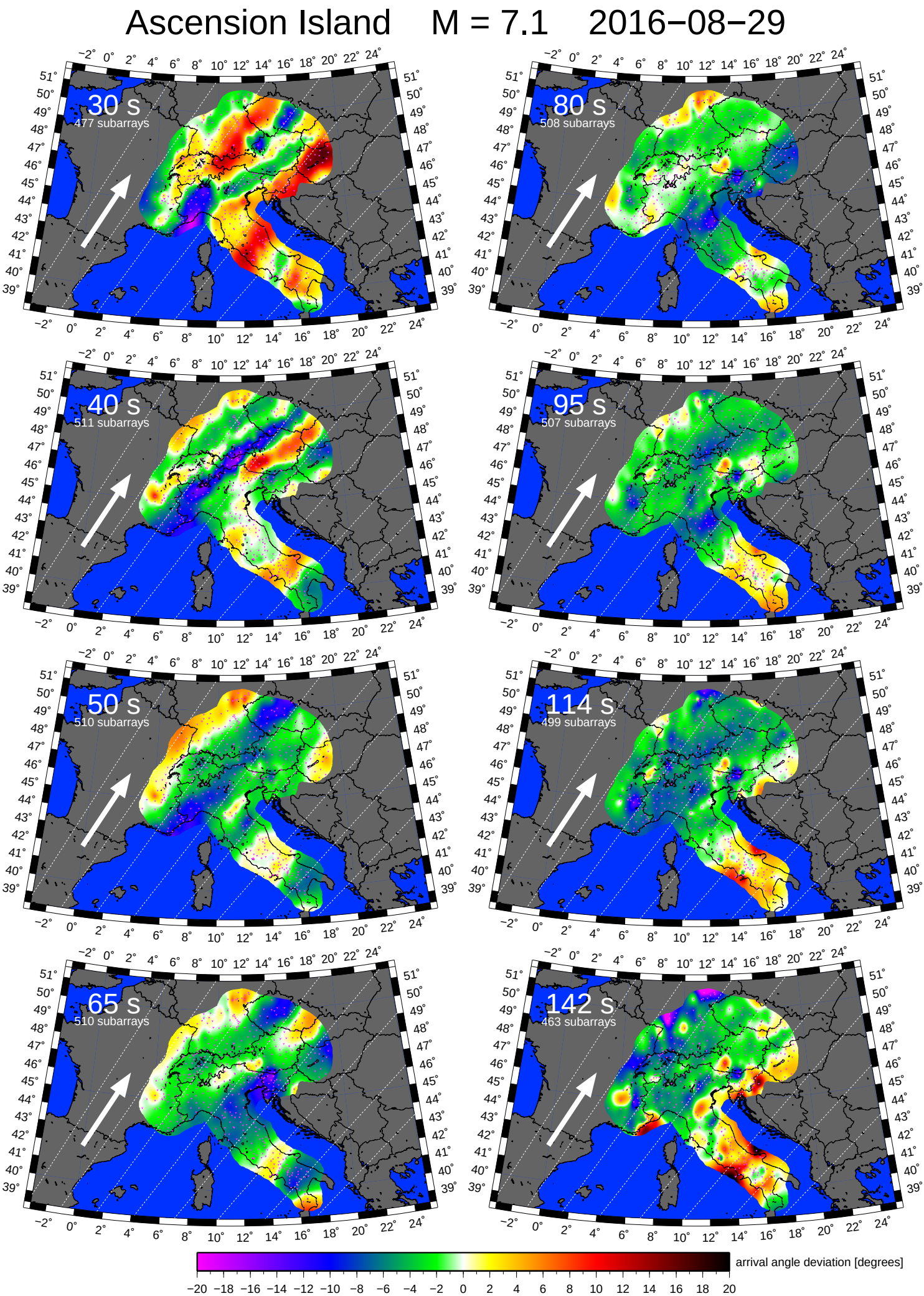
Ascension Island M = 7.1 2016−08−29
30 s
477 subarrays
80 s
508 subarrays
40 s
511 subarrays
95 s
507 subarrays
50 s
510 subarrays
114 s
499 subarrays
65 s
510 subarrays
142 s
463 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S9

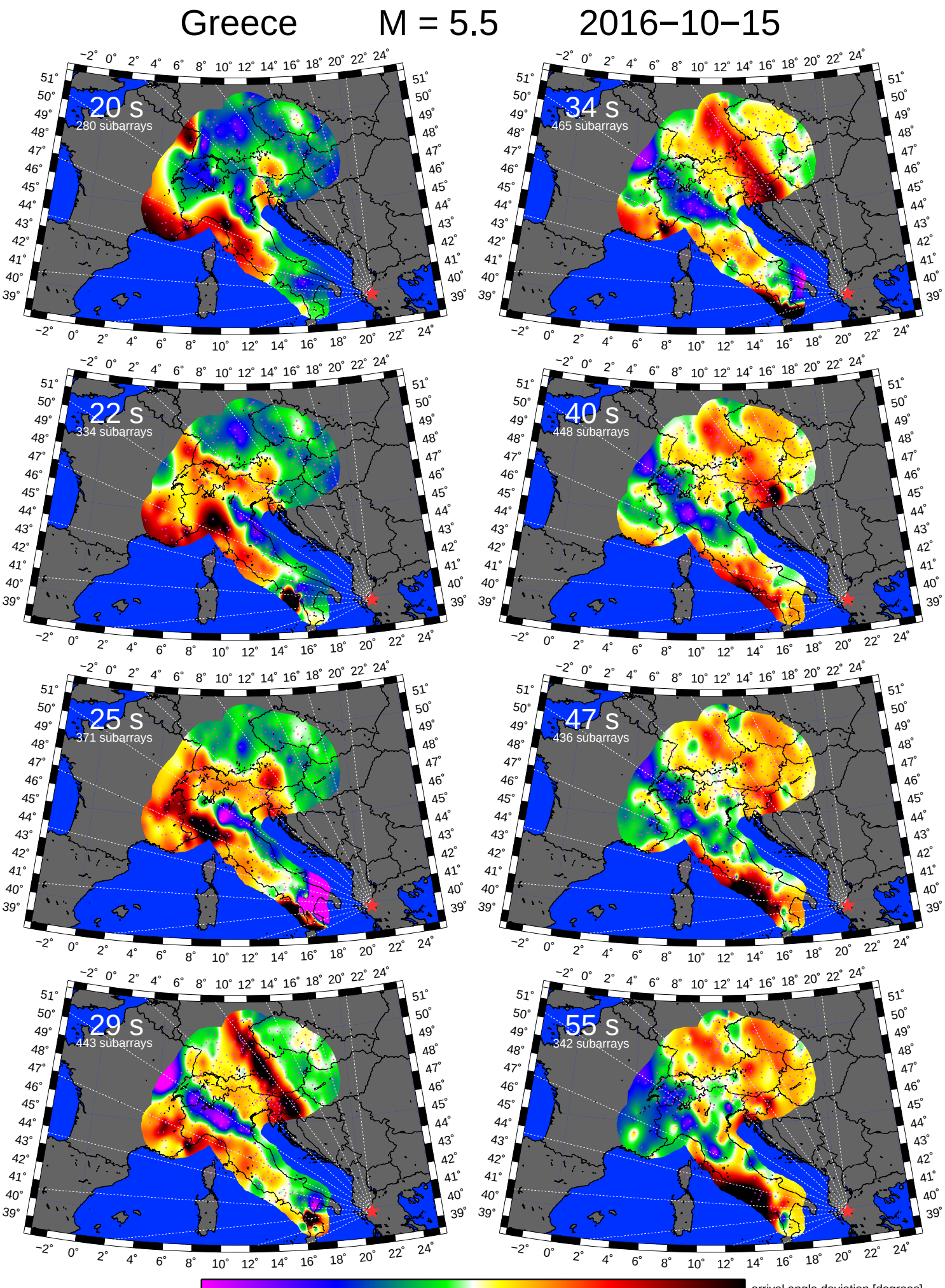
Greece M = 5.5 2016−10−15
20 s
280 subarrays
34 s
465 subarrays
22 s
334 subarrays
40 s
448 subarrays
25 s
371 subarrays
47 s
436 subarrays
29 s
443 subarrays
55 s
342 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S10

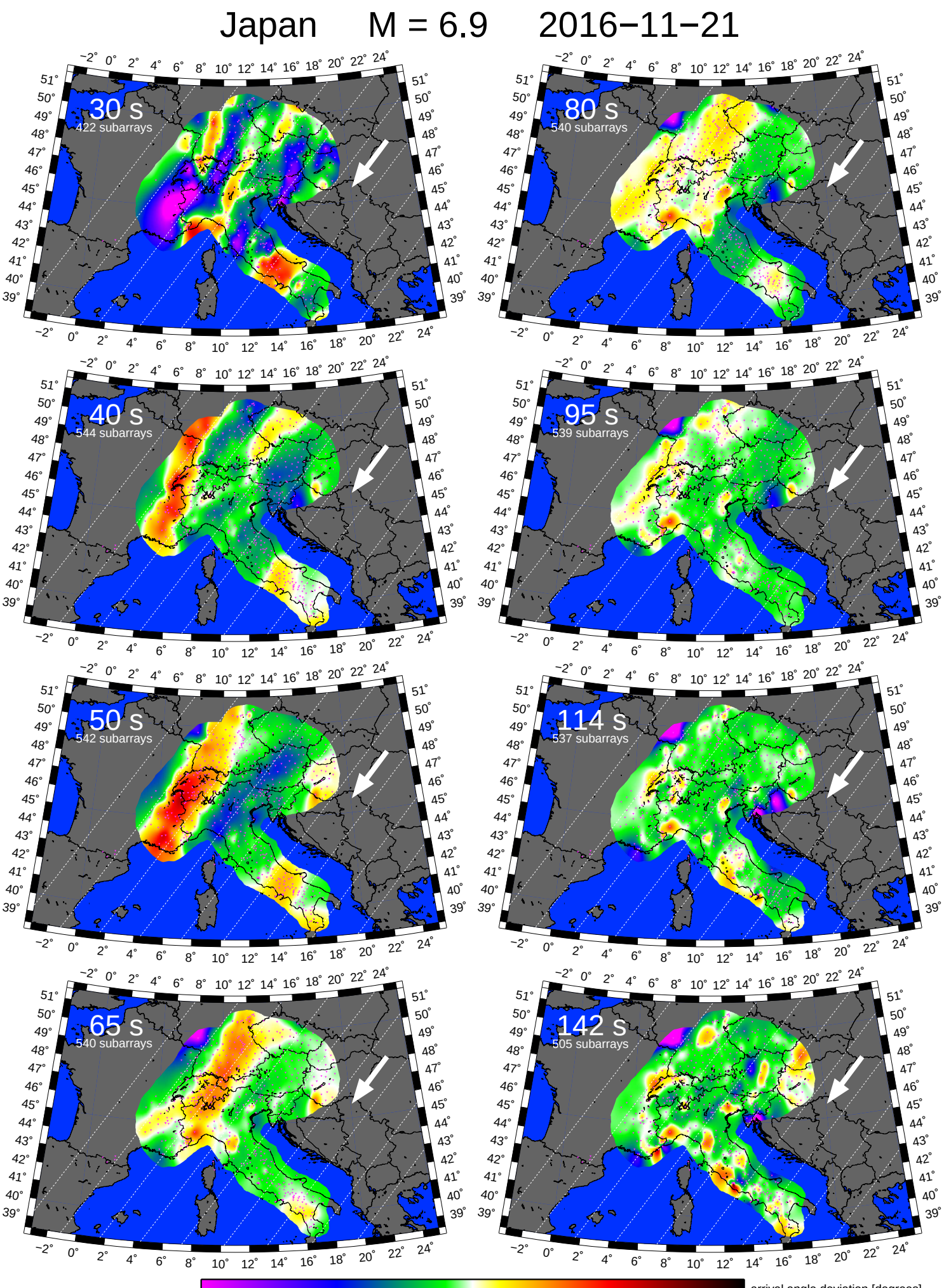
Japan M = 6.9 2016−11−21
30 s
422 subarrays
80 s
540 subarrays
40 s
544 subarrays
95 s
539 subarrays
50 s
542 subarrays
114 s
537 subarrays
65 s
540 subarrays
142 s
505 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S11

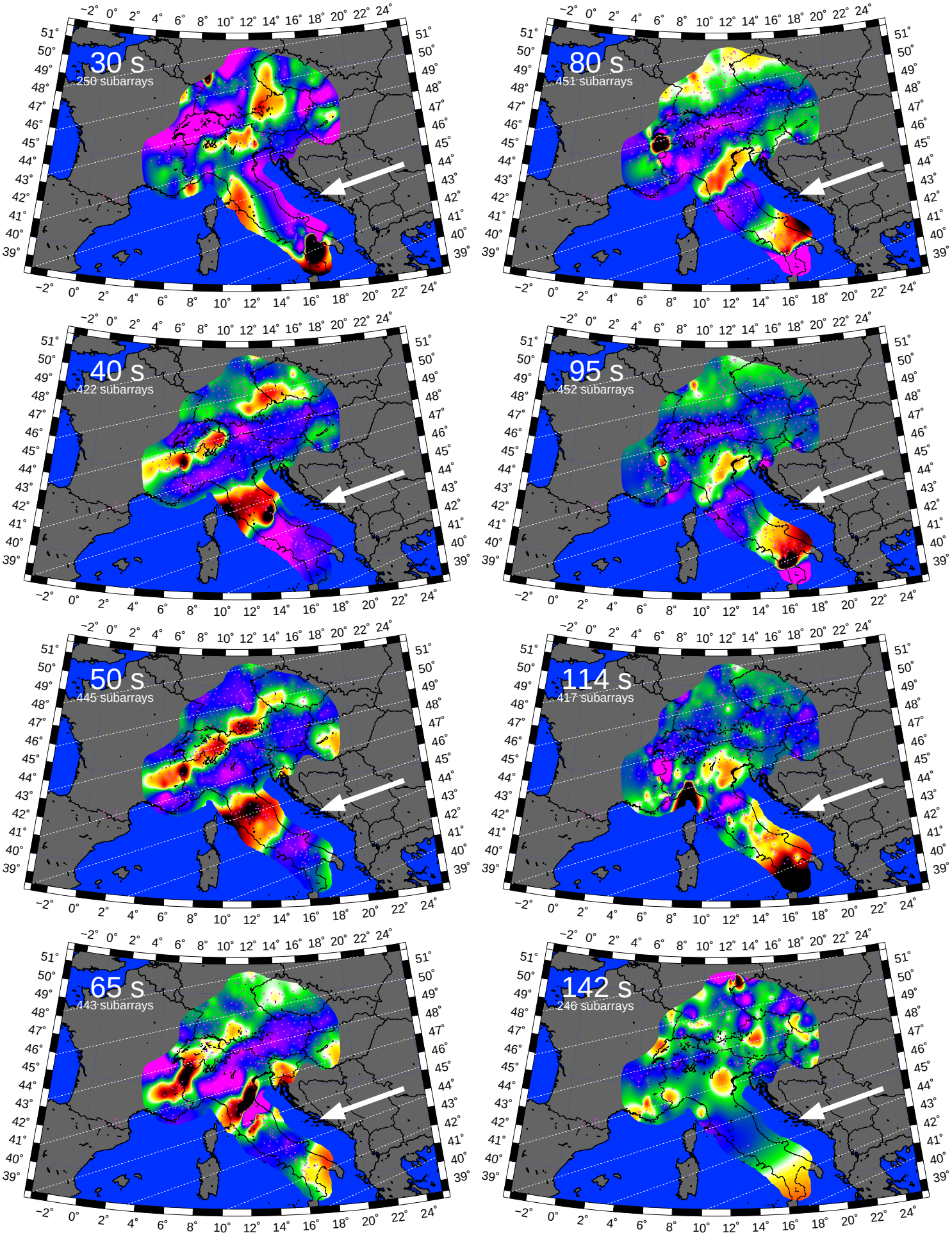
Tajikistan M = 6.6 2016−11−25
30 s
250 subarrays
80 s
451 subarrays
40 s
422 subarrays
95 s
452 subarrays
50 s
445 subarrays
114 s
417 subarrays
65 s
443 subarrays
142 s
246 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S12

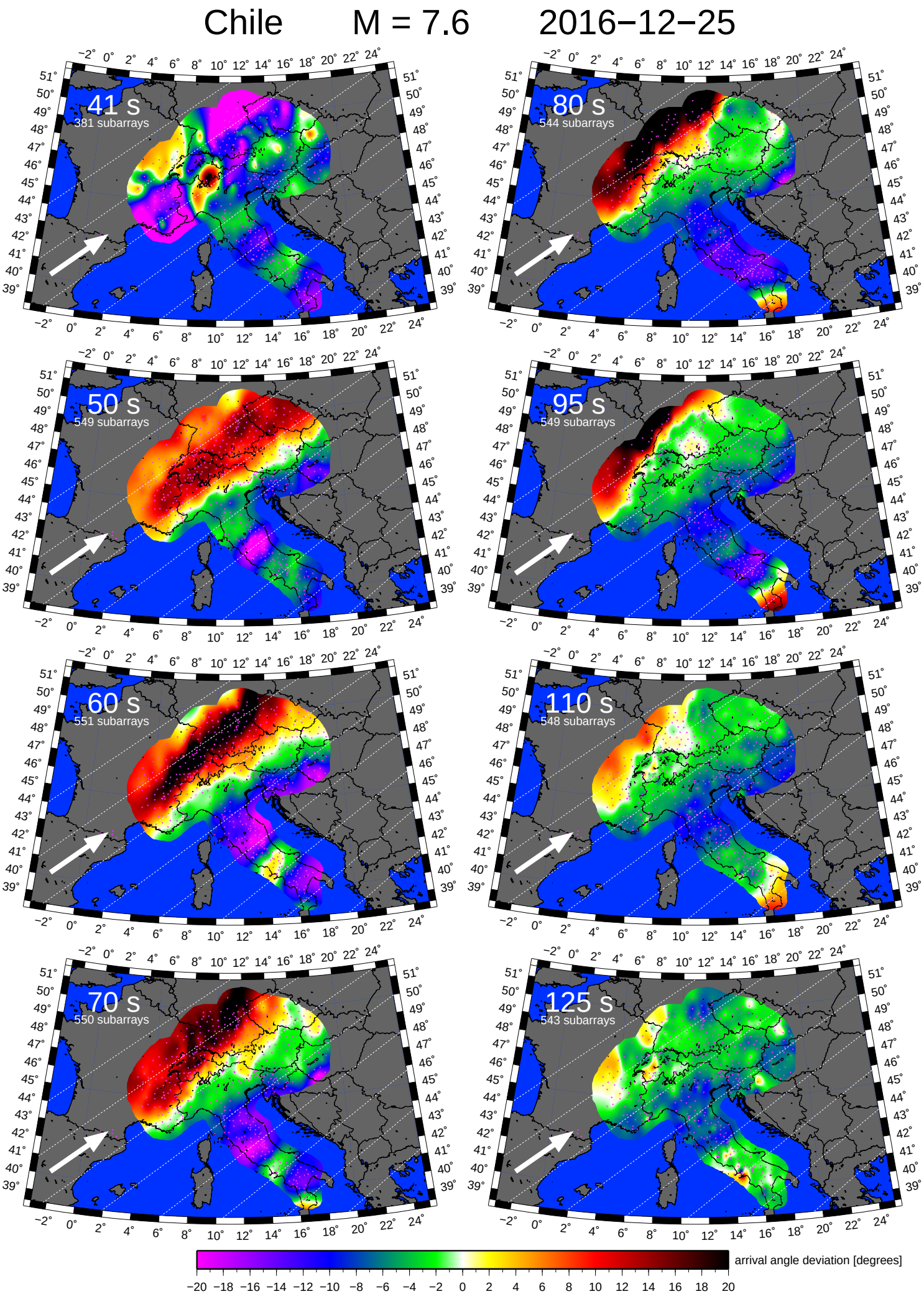
Chile M = 7.6 2016−12−25
41 s
381 subarrays
80 s
544 subarrays
50 s
549 subarrays
95 s
549 subarrays
60 s
551 subarrays
110 s
548 subarrays
70 s
550 subarrays
125 s
543 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S13

Papua M = 7.9 2017−01−22

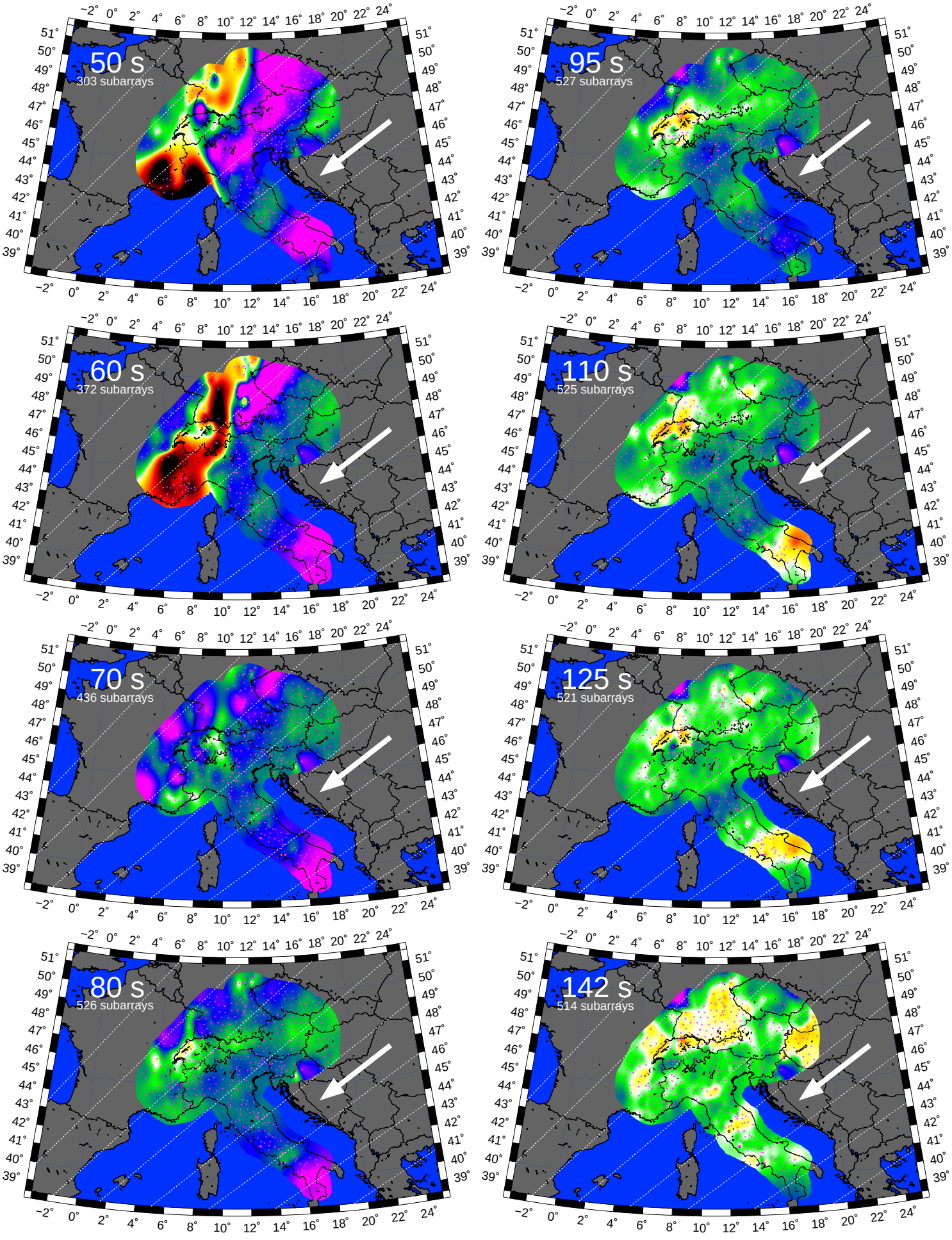

Fig. S14

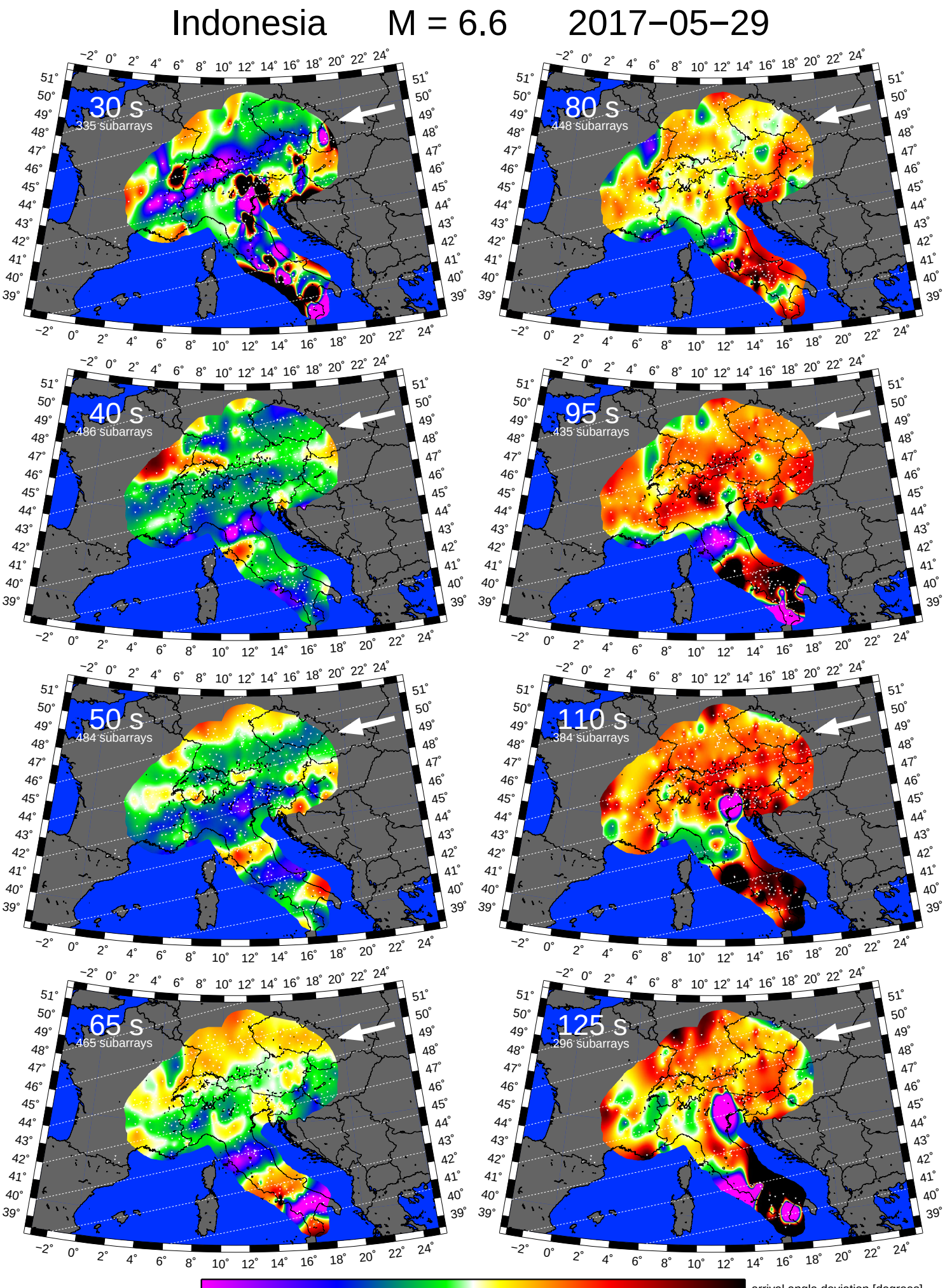
Indonesia M = 6.6 2017−05−29
30 s
335 subarrays
80 s
448 subarrays
40 s
486 subarrays
95 s
435 subarrays
50 s
484 subarrays
110 s
384 subarrays
65 s
465 subarrays
125 s
296 subarrays
arrival angle deviation [degrees]
−32 −30 −28 −26 −24 −22 −20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8

Fig. S15

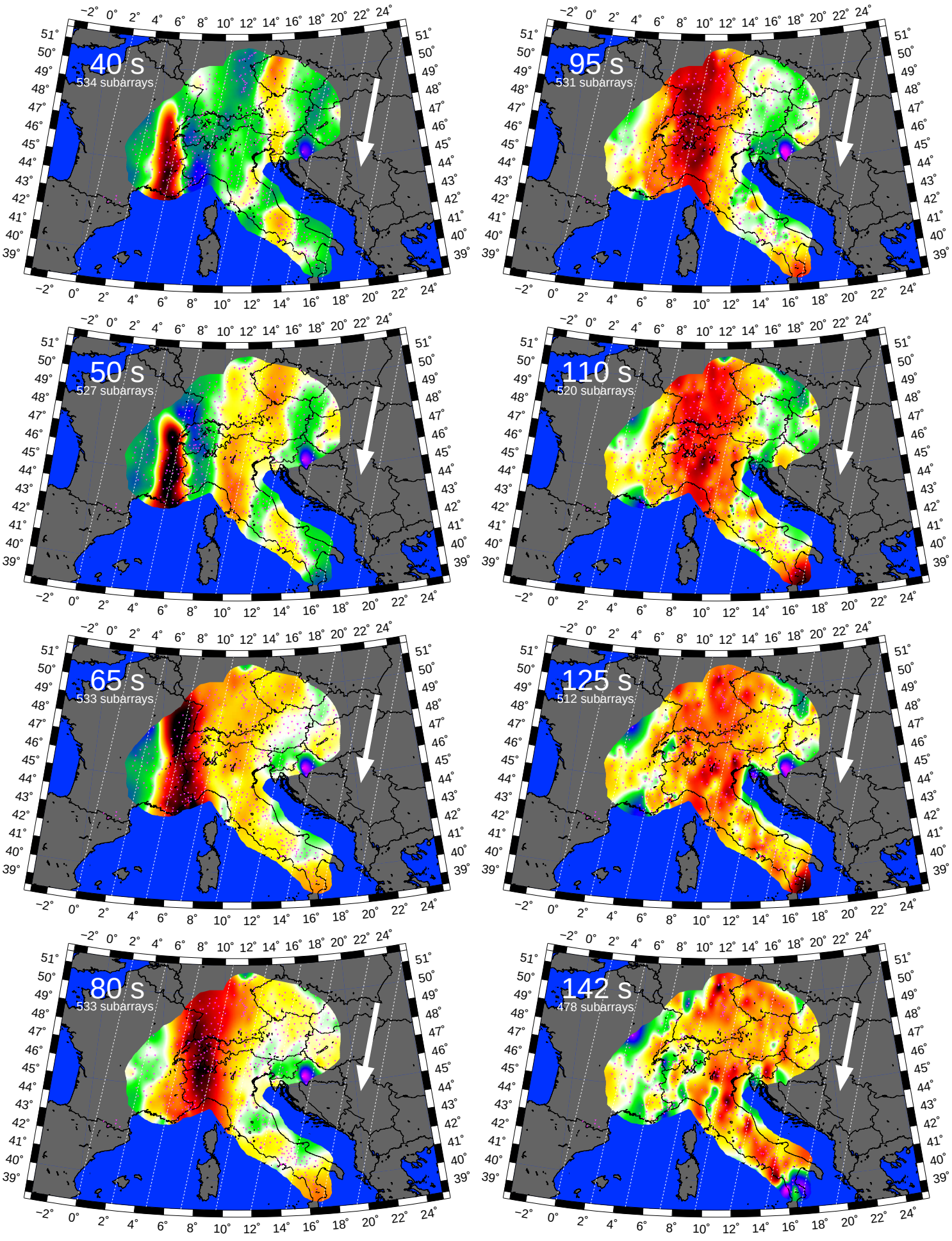
Aleutian M = 6.8 2017−06−02
40 s
534 subarrays
95 s
531 subarrays
50 s
527 subarrays
110 s
520 subarrays
65 s
533 subarrays
125 s
512 subarrays
80 s
533 subarrays
142 s
478 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S16

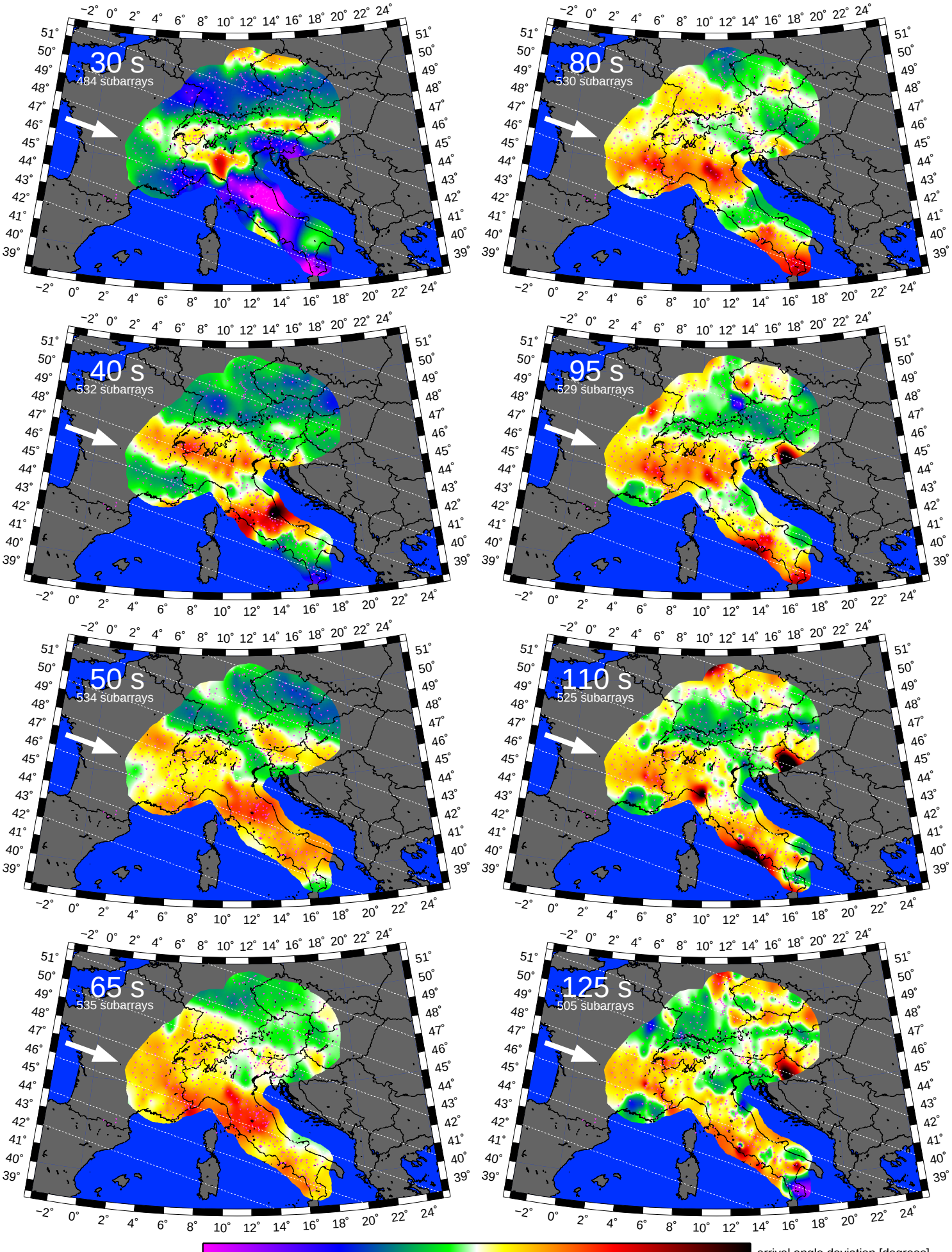
Guatemala M = 6.9 2017−06−14
30 s
484 subarrays
80 s
530 subarrays
40 s
532 subarrays
95 s
529 subarrays
50 s
534 subarrays
110 s
525 subarrays
65 s
535 subarrays
125 s
505 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S17

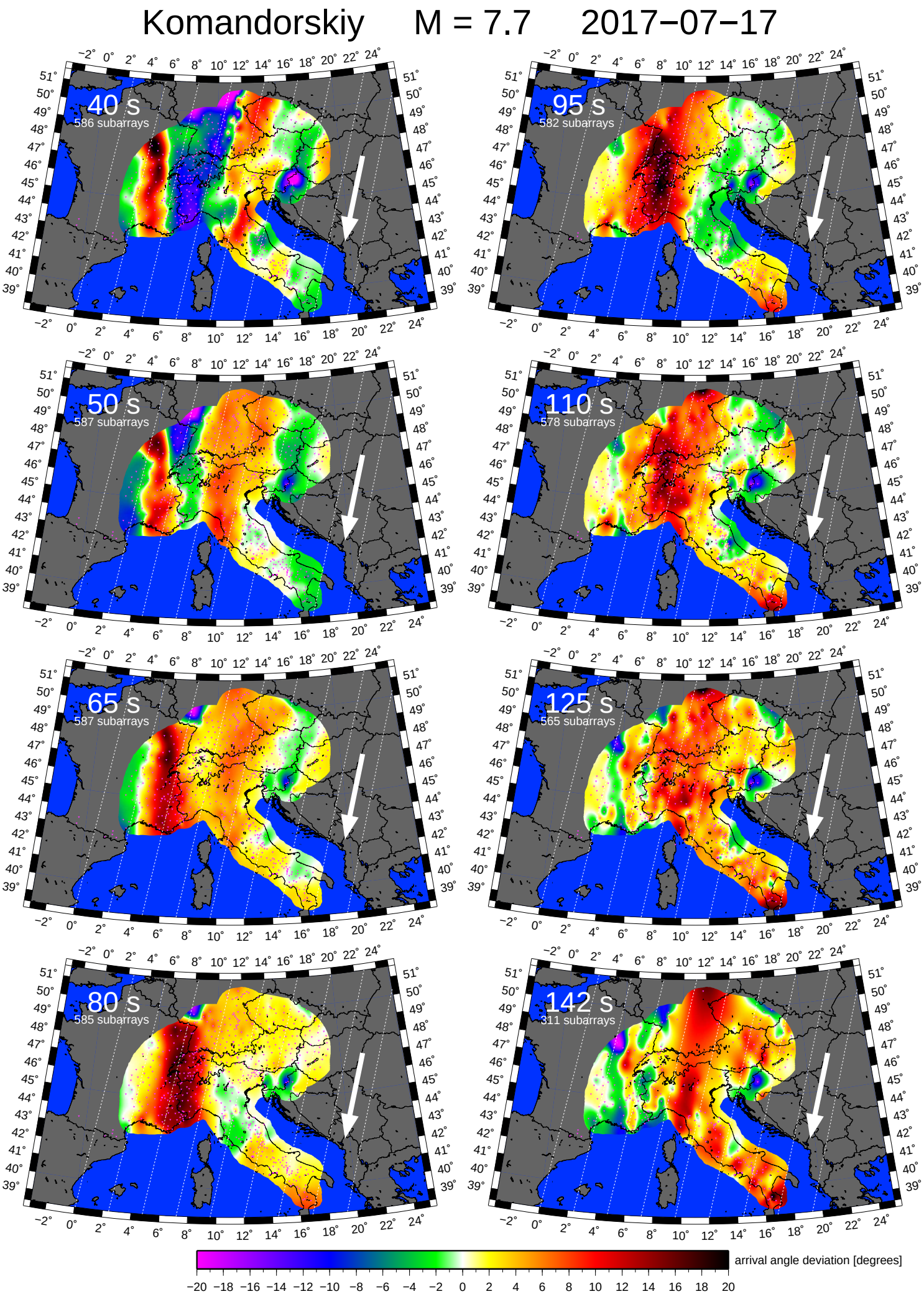
Komandorskiy M = 7.7 2017−07−17
40 s
586 subarrays
95 s
582 subarrays
50 s
587 subarrays
110 s
578 subarrays
65 s
587 subarrays
125 s
565 subarrays
80 s
585 subarrays
142 s
311 subarrays
arrival angle deviation [degrees]
−20 −18 −16 −14 −12 −10 −8 −6 −4 −2 0 2 4 6 8 10 12 14 16 18 20

Fig. S18

Mexico M = 8.1 2017−09−08

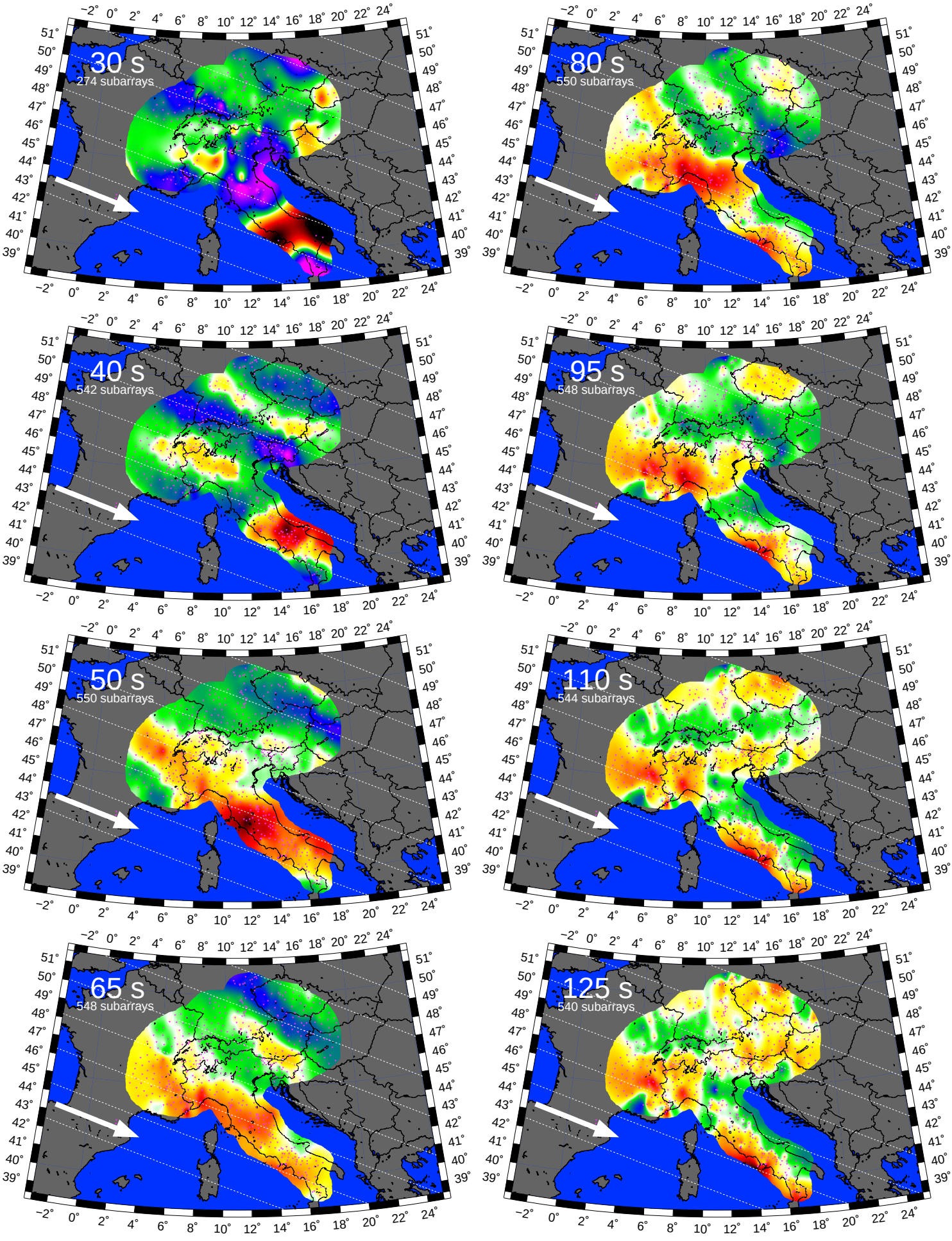

Fig. S19

Bouvet Island M = 6.7 2017−10−10