

**Appendix A-1**

**Deformation Database**

# DEFORMATION DATA BANK

## ALTIPLANO PLATEAU

*Oncken, O., Hindle, D., Kley, J., Elger, K., Victor, P. and Schemmann, K.*

*Deformation of the Central Andean upper plate system –*

*Facts, fiction, and constraints for plateau models*

Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
Western Cordillera, Chucal-Lauca basin	18	19	18,5	68,6	69,5	69,05	22	7,5	c	[9]
Western Cordillera, Chucal-Lauca basin	18	19	18,5	68,6	69,5	69,05	12	0,5	c	[9]
Precordillera, Western Cordillera	18,2	19	18,6	69,1	69,4	69,25	8	0	c, ss	[18], [21], [69]
Precordillera	20	22,5	21,25	68,6	69,8	69,2	46	38	c	[24], [39]
Precordillera	22	22,5	22,25	68,7	69,1	68,9	10	0	ss	[67]
Altiplano, W-flank, Western Cordillera	13	15	14	75	77	76	44	38	c	[53]
Altiplano, W-flank, Western Cordillera	13	15	14	75	77	76	25	8	c	[53]
Altiplano, W-flank	15	16	15,5	72	75	73,5	2,5	1	c	[47]
Altiplano, W-flank	15	16	15,5	72	75	73,5	1	0	e	[47]
Altiplano, W-flank	17	18	17,5	69,5	70,5	70	22	6	c	[63]
Altiplano, W-flank	18	18,9	18,45	69,2	69,8	69,5	22	6	c	[21], [51], [70]
Altiplano, W-flank	18,3	18,7	18,5	69,4	69,9	69,65	9	7,7	c	[20]
Altiplano, W-flank	18,8	19,2	19	69,7	70	69,85	>27	22	c	[21]
Altiplano, W-flank	19	19,7	19,35	69	69,8	69,4	22	6	c	[18], [21], [55]
Altiplano, W-flank	19	22	20,5	68,7	69,3	69	7	0	tt	[18], [69]
Altiplano, W-flank	20	21	20,5	68,5	69,5	69	29	23	c	[69]
Altiplano, W-flank	20	21	20,5	68,5	69,5	69	20	7	c	[69]
Altiplano, W-flank	21,5	22,5	22	68,5	69	68,75	12	6	c	[7], [24]
Altiplano Peru	13	15	14	71	73	72	7	2,5	e	[47]
Altiplano Peru	13	15	14	71	73	72	2,5	1	c	[47]

4	Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
	Altiplano Peru	13	15	14	71	73	72	1	0	e	[47]
	Altiplano Peru	13	15	14	71	73	72	27	8	c	[53]
	Altiplano Peru	15	17	16	69	72	70,5	45	30	c	[8], [44]
	Altiplano Peru	15	17	16	69	72	70,5	20	15	c	[44]
	Altiplano Peru	15	17	16	69	72	70,5	12	5	c	[44]
	Altiplano, Tambo-Tambillo	19,3	20,2	19,75	67	67,5	67,25	>30	25	c	[38]
	Altiplano, Tambo-Tambillo	19,3	20,2	19,75	67	67,5	67,25	17	13-10	c	[33], [38]
	Altiplano, S	20	21	22	66,8	68,5	67,65	33	28	c	[16], [17]
	Altiplano, S	20	21	22	66,8	68,5	67,65	28	19	c	[5], [17]
	Altiplano, S	20	21	22	66,8	68,5	67,65	19	8	c	[16], [17], [31]
	Corque Syncline	16,5	18,5	17,5	67,5	68,5	68	10	5,4	c	[26], [33], [38], [59]
	Corque Syncline	16,5	18,5	17,5	68	68,5	68,25	5	0	c	[38]
	Corque Syncline	17	18	17,5	68,3	69,5	68,9	28	14	c	[5], [45]
	Corque Syncline	17,5	18,5	18	67	68	67,5	14	10	tt	[26], [59]
	Calama Basin	22	22,5	22,25	68,3	69	68,65	25	7	ss	[43], [67]
	Calama Basin	22	22,5	22,25	68,3	69	68,65	5	0	tp	[43], [67]
	Atacama Basin	22,5	23,5	23	68	68,4	68,2	7	0	c	[19], [30], [31], [52]
	Atacama Basin, Paciencia fault			23,05			68,5	33,70	16,40	e	[54]
	Cordillera de la Sal			23,2			68,4	16,4-11,2		e	[54]
	Atacama Basin	22,5	24	23,25	67,8	68,4	68,1	18-17	12-10	c	[30], [31], [37], [50], [52], [57], [58]

Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
Atacama, Cordillera Domeyko	22,5	24	23,25	68,3	68,8	68,55	60	38	c	[30], [37], [52], [57]
Atacama, Cordillera Domeyko	22,5	24	23,25	68,3	68,8	68,55	12	0	c	[52]
Salar Fault System			23,6			68,3	5	0	c	[54]
Atacama Basin	23,5	23,7	23,6	67,9	68,05	67,975	2,4-3,8	<2,4- 2,8	tp	[37]
Atacama Basin	23,5	24,1	23,8	68,05	68,15	68,1	3,2±0,3	<1	c	[37]
Puna, W-flank	22,5	24	23,25	67,5	68	67,75	12	0	c	[37], [49], [52]
Puna, W-flank	25	25,5	25,25	69	69,5	69,25	46	40	c	[39]
Puna, W-flank	25	26	25,5	69	69,5	69,25	12	0	c	[4], [10]
Salar de Antofalla	25,1	26,6	25,85	67	68	67,5	28	25	c	[36]
Salar de Antofalla	25,1	26,6	25,85	67	68	67,5	20	17	c	[36]
Salar de Antofalla	25,3	25,6	25,45	67,1	67,7	67,4	<5,3±0,3	<1,7	ss	[36]
Salar de Antofalla	25,7	26,6	26,15	67,5	68	67,75	12	10	c	[36]
Salar de Antofalla	25,7	26,6	26,15	67,5	68	67,75	4	0	c	[36]
Puna	21,7	23	22,35	65	66,2	65,6	14	12,5- 8,8	c	[11]
Puna	21,7	23	22,35	65	66,2	65,6	9	<9	tt	[11]
Puna	23	26	24,5	65,5	67,7	66,6	15-13	1	c	[40], [46], [68]
Puna	23	26	24,5	65,5	67,7	66,6	1,5-0,2	0	tp, ss	[40], [49]
Puna	24	25	24,5	67,3	68,2	67,75	>24	11-10	c	[13], [40]
Puna	24	26	25	66	67,7	66,85	28-24	15	c	[40], [68]
Puna	24,5	24,8	24,65	66,5	67,1	66,8	<5	0	c	[40]

Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
Puna	25,3	25,5	25,4	66,8	67,3	67,05	5,86±0,14	0,5-1	c	[40]
Puna	25,3	26,1	25,7	65,6	66,1	65,85	13,4±0,4	3	c	[40]
Puna	26	26,5	26,25	65,7	66,3	66	>9,5±0,3	4,8±0,3	c	[40]
Puna	26	27	26,5	66,5	68,5	67,5	4-2	2	c	[70]
Puna	26	27	26,5	66,5	68,5	67,5	2	0	e	[31]
Puna	26,4	27,4	26,9	66,1	67,2	66,65	6,7 ±0,05	2,35	c	[1], [40]
Puna	26,5	26,9	26,7	67,1	67,5	67,3	10,4 ±0,05	1,3±0,6	c	[40]
Puna	26,5	26,9	26,7	67,1	67,5	67,3	1,3±0,6	<1,3 ±0,6	c	[40]
Puna	26,5	27,5	27	66,2	67,2	66,7	2	0	c, (e)	[1]
Puna	26,6	27,2	26,9	66	66,3	66,15	10,7±1,7	2,51 ±0,6	c	[40]
Eastern Cordillera, W-margin	17	18,5	17,75	65,5	67	66,25	42	30	c	[38]
Eastern Cordillera, W-margin	17	19	18	66	68	67	30-25	20-16	c	[5], [26], [28], [38], [59]
Eastern Cordillera, W-margin	20,5	21,5	21	65,5	66,5	66	30	17	c	[16], [48]
Eastern Cordillera, W-margin	20,5	21,5	21	65,5	66,5	66	19	8	c	[17], [48]
Eastern Cordillera, W-margin	20,5	21,5	21	66,3	66,7	66,5	33	27	c	[16], [17]
Eastern Cordillera, N	14,5	17,5	16	66	68,5	67,25	28-27	19	c	[5], [65]
Eastern Cordillera, N	16,5	17,5	17	66,5	67,5	67	45	35	c	[6], [38]
Cochabamba Shear zone	17,5	18,5	18	64,5	67,5	66	7	0	tp	[33], [38]
Eastern Cordillera, C	15,5	16,5	16	67,2	68,2	67,7	15	10	c	[6], [38], [42]
Eastern Cordillera, C	17	21,5	19,25	65	66,5	65,75	25-21	8-10	c, tp	[23], [25], [29], [33], [48]

Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
Eastern Cordillera, C	17	22	19,5	65	66,5	65,75	42-40	21-25	c	[16], [27], [29], [48]
Eastern Cordillera, C	19	19,1	19,05	65,15	65,2	65,175	4	3	ss	[33]
Eastern Cordillera, C	21	23	22	64,5	66,5	65,5	23-19	>9-10	c	[2], [5], [60]
Eastern Cordillera, E	17	21	19	64,5	65,5	65	35	10	c	[16], [29]
Eastern Cordillera, S	22	23	22,5	64,6	66	65,3	40	30	c	[60]
Eastern Cordillera, S	22	24	23	64,6	66,5	65,55	<7	<2	c	[2], [40], [60], [61]
Eastern Cordillera, S	22,7	23,15	22,925	65	65,5	65,25	40-35	10-3	c	[12]
Eastern Cordillera, S	23	26	24,5	64,5	66,5	65,5	40	33	c	[61]
Eastern Cordillera, S	24	25	24,5	64,8	66,2	65,5	17-12	7	c	[41]
Eastern Cordillera, S	24	25	24,5	64,8	66,2	65,5	7	0	c	[41]
Eastern Cordillera, S	25,5	26,5	26	65	66,2	65,6	20	2	c	[3], [22]
Interandean	21	22	21,5	64,3	65,3	64,8	30	6-9	c	[5], [16], [34], [62]
Subandean	19	22	20,5	63	64,5	63,75	10	0	c	[14]
Subandean	20	23	21,5	63	64	63,5	10	0	c	[3], [5], [31]
Subandean	20,5	21,5	21	63,3	64,3	63,8	11	2	c	[3], [5], [16], [31], [48]
Subandean	20,5	21,5	21	62,6	63,5	63,05	8	0	c	[3], [5], [16], [31], [48]
Subandean	22,5	23	22,75	64,8	65	64,9	8,5-9	7,5	c	[15]
Subandean	22,5	23	22,75	64	64,2	64,1	4-4,5	<3,2	c	[15]
Subandean	22,5	23	22,75	63,7	63,9	63,8	2,5-3	1,2	c	[15]
Subandean	22,5	23	22,75	63,5	65	64,25	9	7	c	[15]

∞	Locality	latitude °S (N border)	latitude °S (S border)	center point (latitude °S)	longitude °W (W border)	longitude °W (E border)	center point (longitude °W)	beginning (Ma)	end (Ma)	kinematics	reference
	Subandean	22,5	23	22,75	64,6	64,8	64,7	8,5	7	c	[15]
	Subandean	22,5	23	22,75	64,5	64,6	64,55	7,6	4,5-5	c	[15]
	Subandean	22,5	23	22,75	63,5	65	64,25	7	2	c	[15]
	Subandean	22,5	23	22,75	64,4	64,5	64,45	6,9	<4,7	c	[15]
	Subandean	22,5	23	22,75	63,5	65	64,25	4,5	0	c	[15]
	Santa Barbara belt	24	25,5	24,75	64,5	65	64,75	<30	>9-10	c, (e)	[3]
	Santa Barbara belt	24	25,5	24,75	64	65	64,5	2-5	1-0	c, (e)	[3], [35], [40]
	Santa Barbara belt	24	25,5	24,75	64,5	65	64,75	1	0	tt	[3], [40]
	Sierras Pampeanas	26	33	29,5	64	69	66,5	11-8	2-4	c	[2], [32], [56], [66]
	Sierras Pampeanas	26	33	29,5	64	69	66,5	4-3	0	c	[32], [66]

Each of the data sets consist of the following:

- name of the region in the study areas of given references are located,
- coordinates of boundaries defining polygons and its center points in which the study areas are located,
- beginning and end of deformation activity in millions of years (Ma),
- kinematics inferred from field studies (c – compressive, e – extensive, tt – transtensional, tp – transpressional, ss – strike-slip)
- references which contribute any of the given information.

We scanned each of the references for the mentioned details, which we weighted, and in certain cases reinterpreted, according to the following criteria:

- number and quality of the methods used for age constraints (e.g. isotopic age dating, sedimentary or structural cross-cutting relationships, seismic data, apatite-fission-track data),
- clear and detailed documentation of : a) used method, b) sample collection, c) sample processing, d) location of both study area and samples,
- number of available references for one location (e.g. spatial or temporal overlap of data),
- accuracy of spatial and temporal coverage,
- age of publication.



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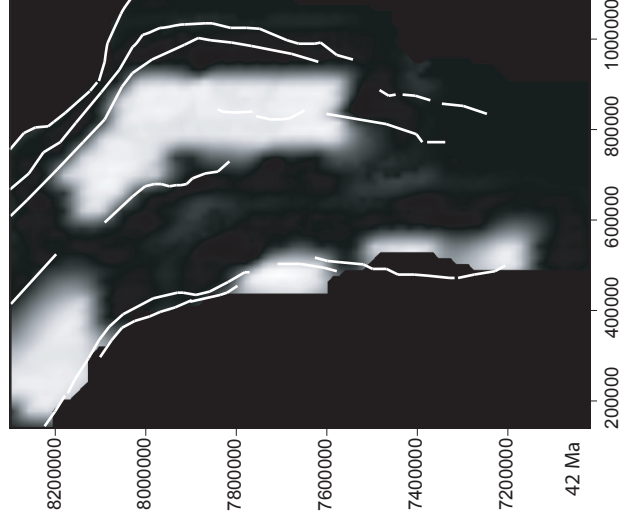
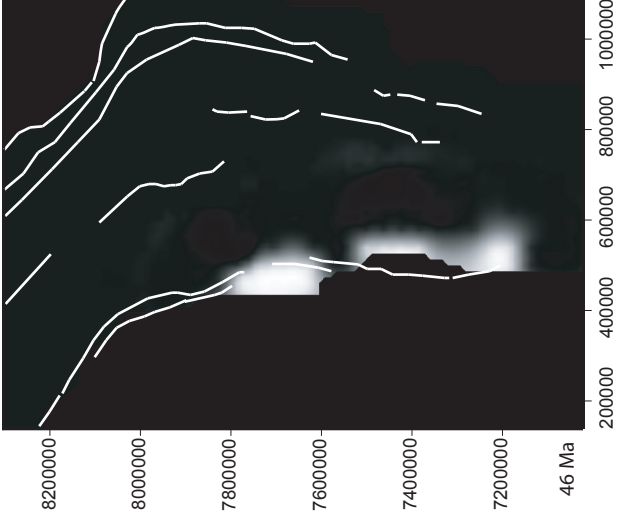
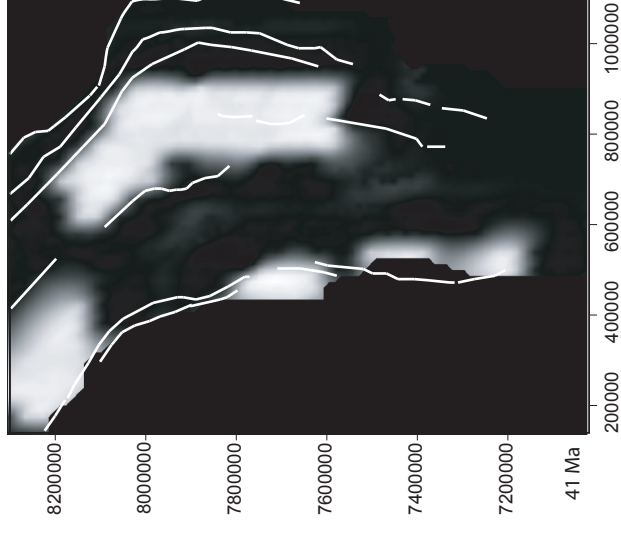
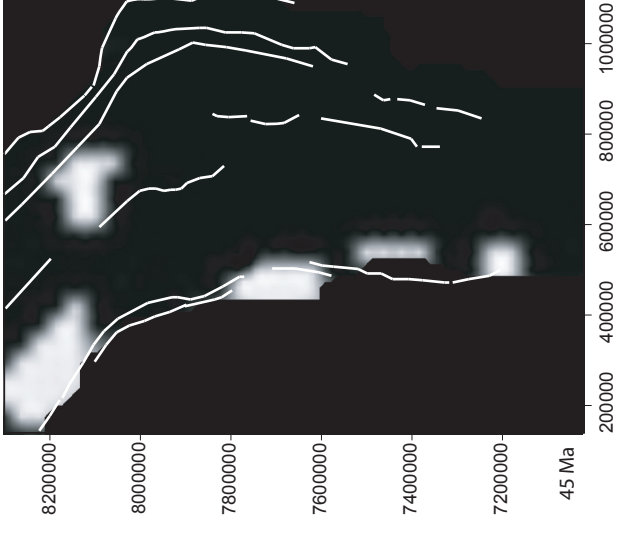
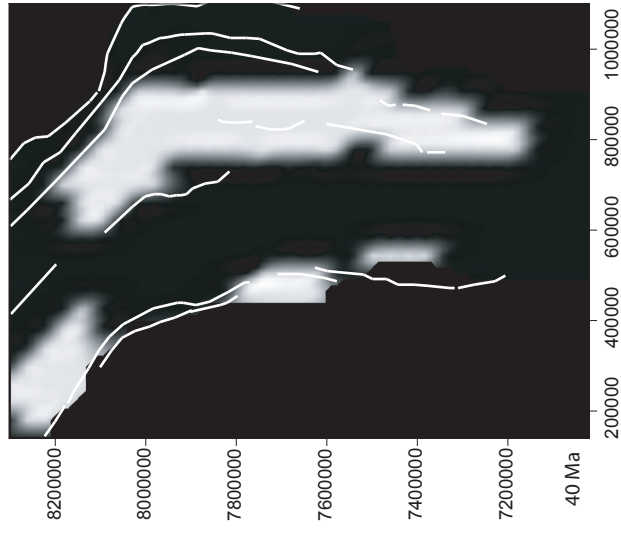
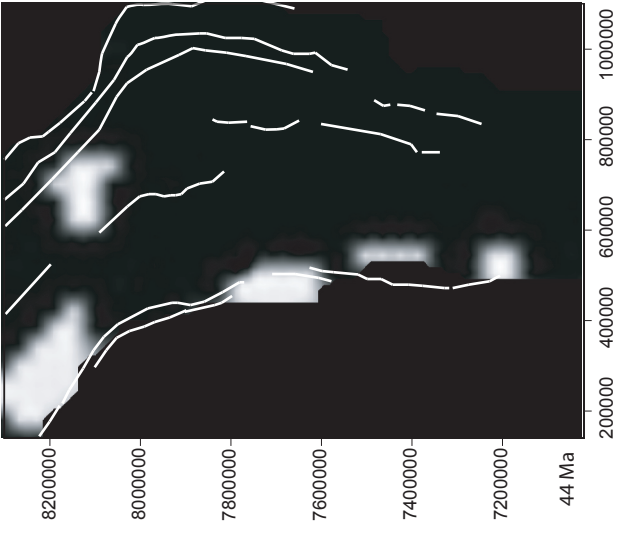
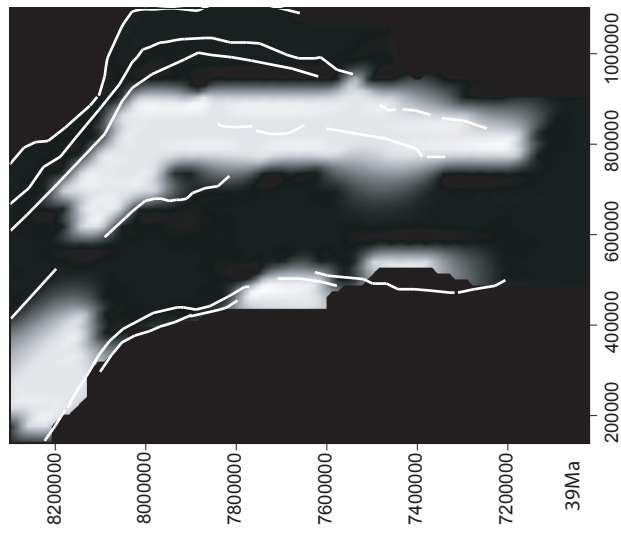
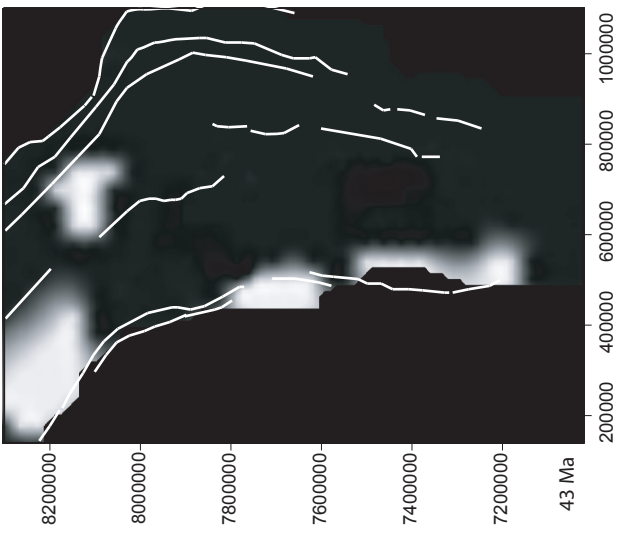
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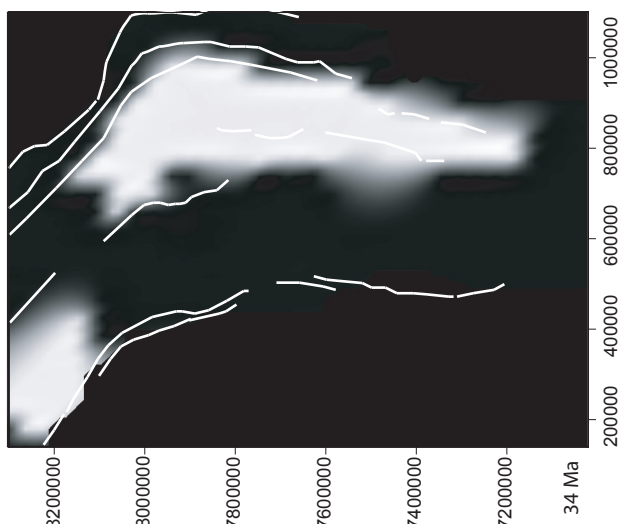
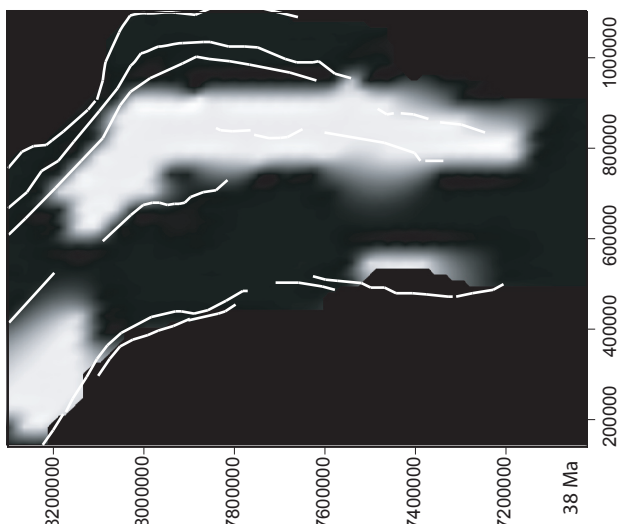
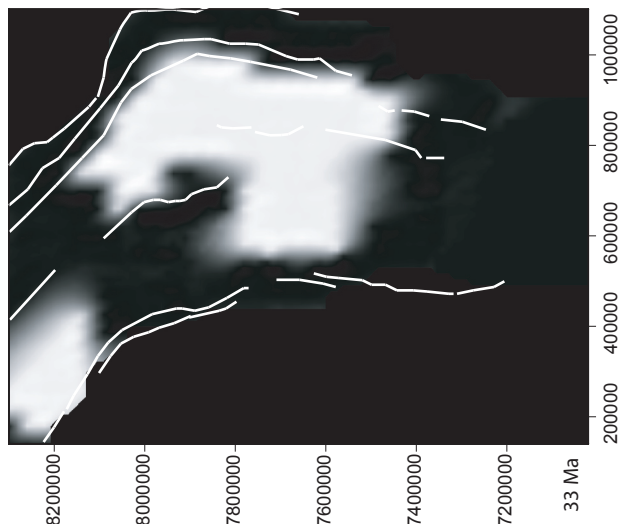
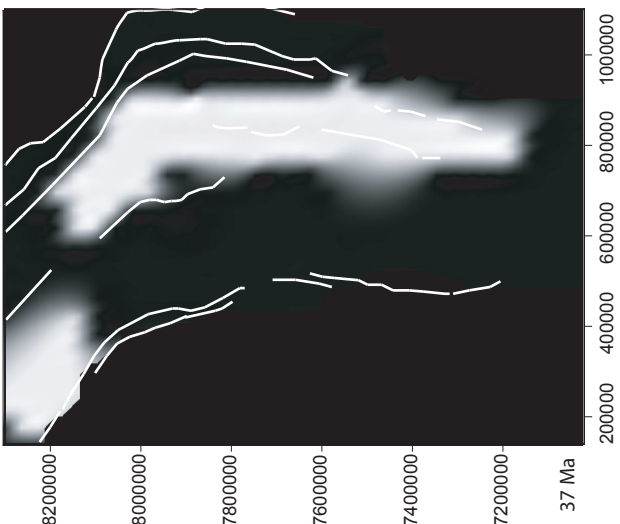
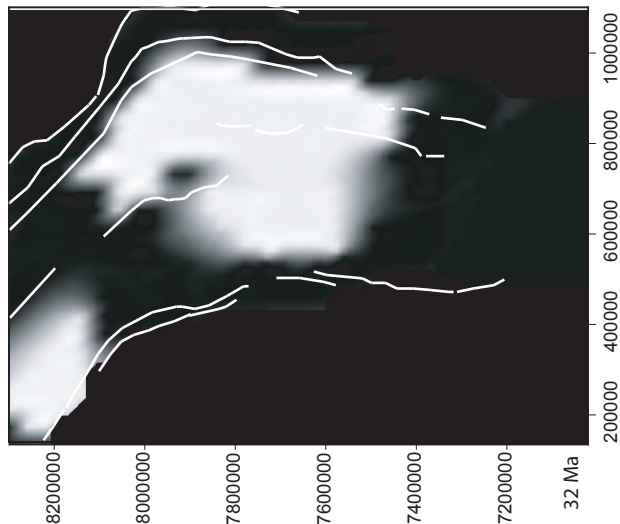
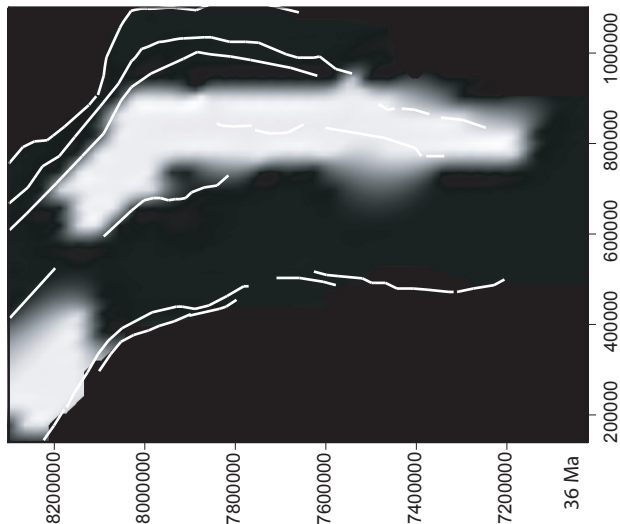
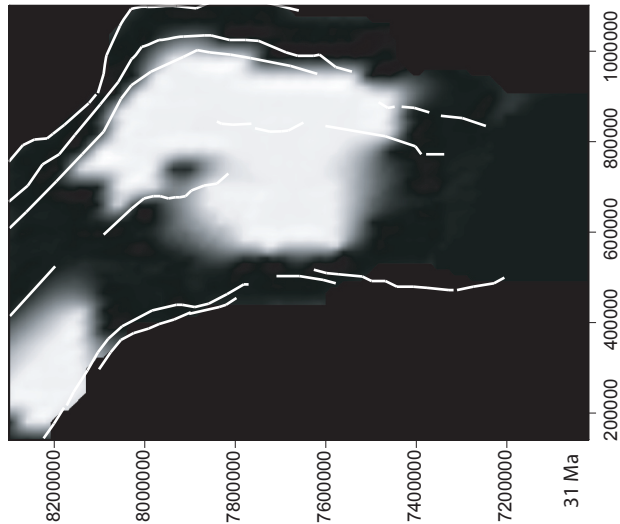
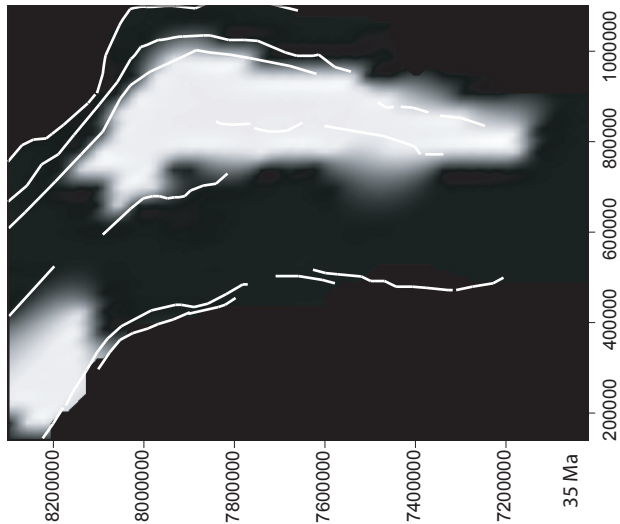
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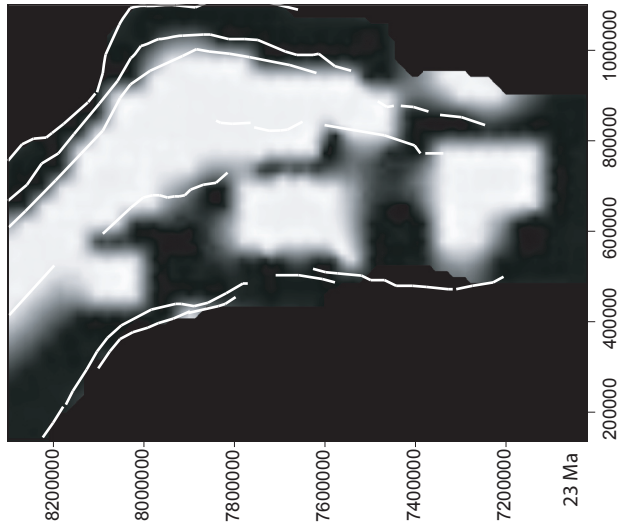
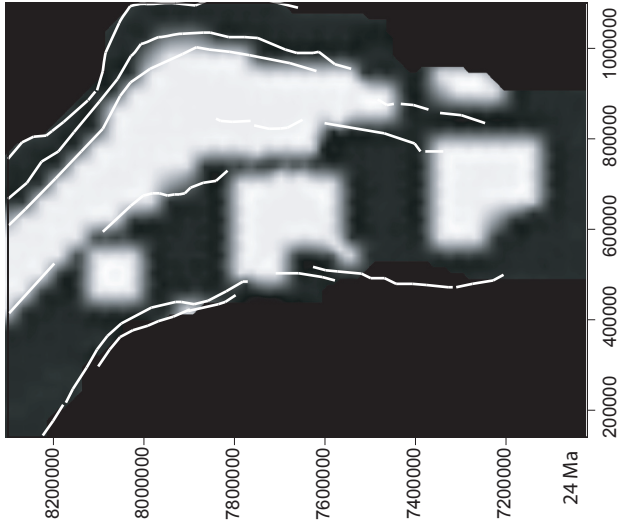
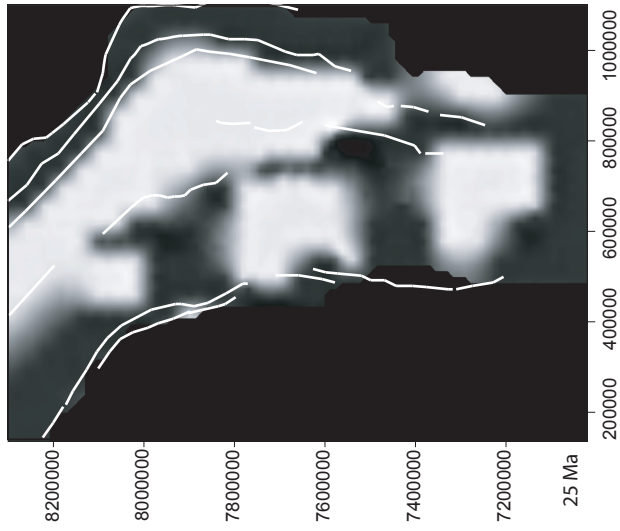
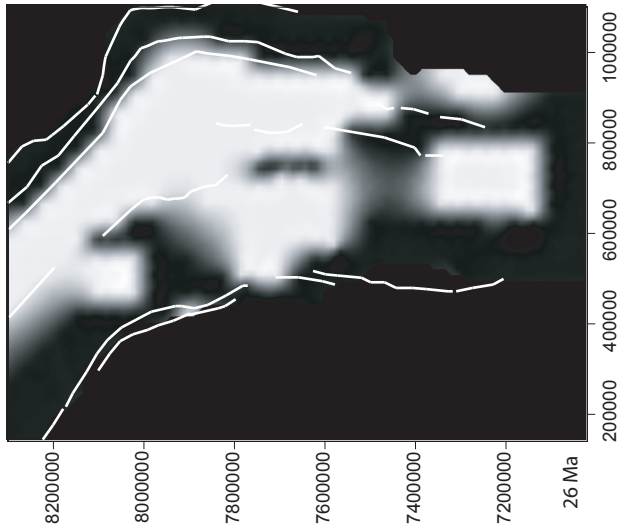
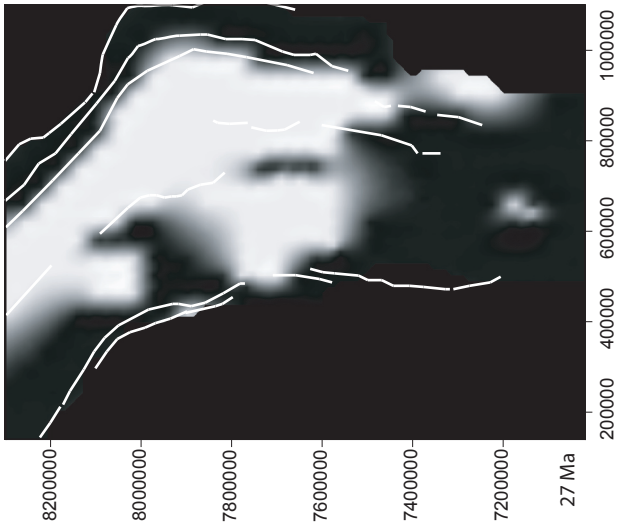
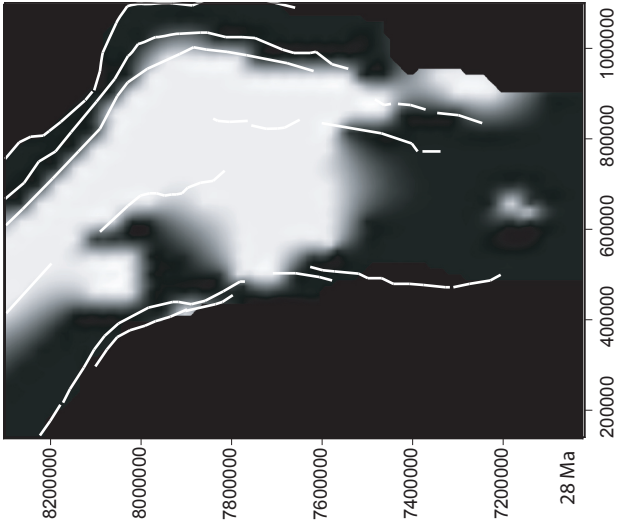
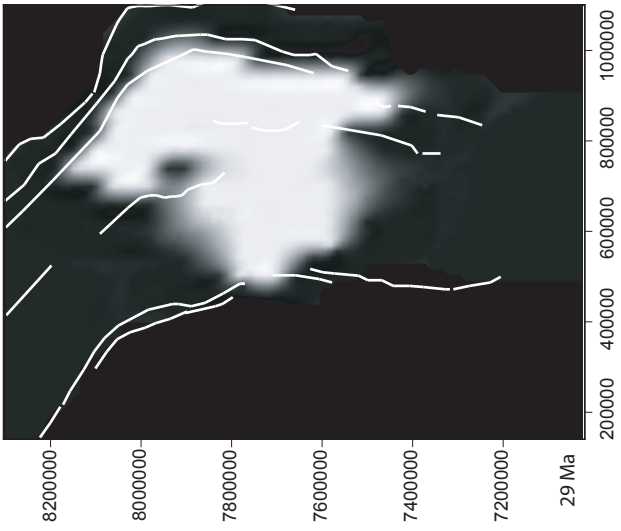
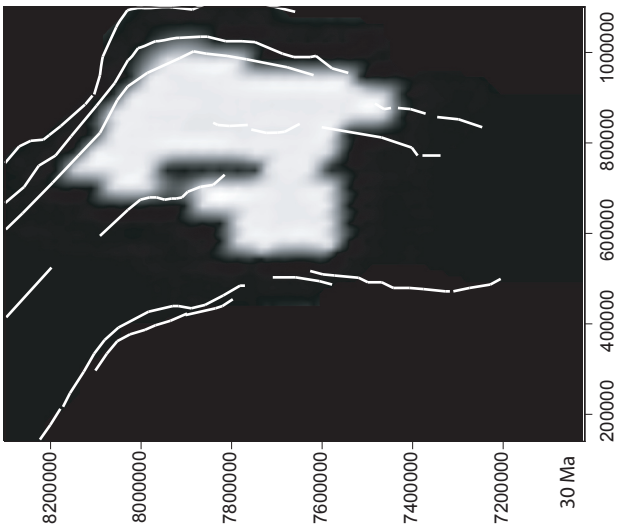


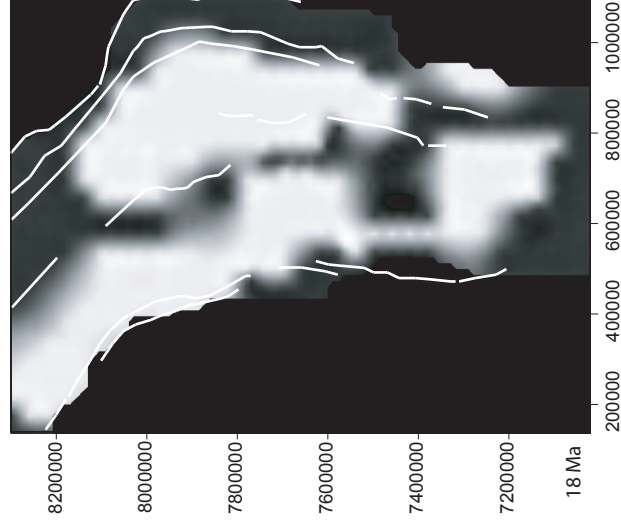
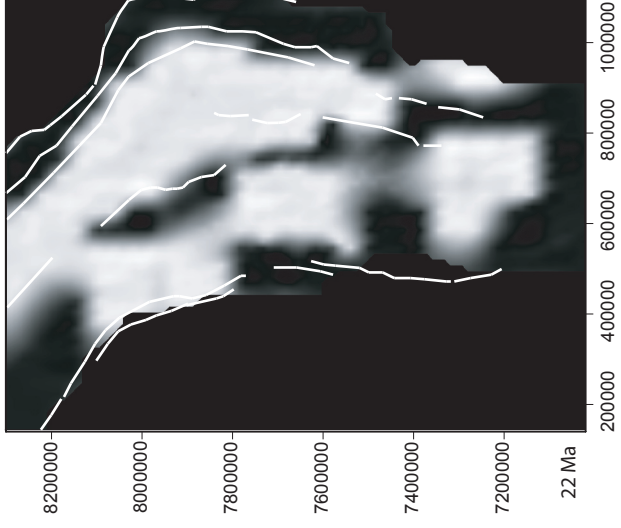
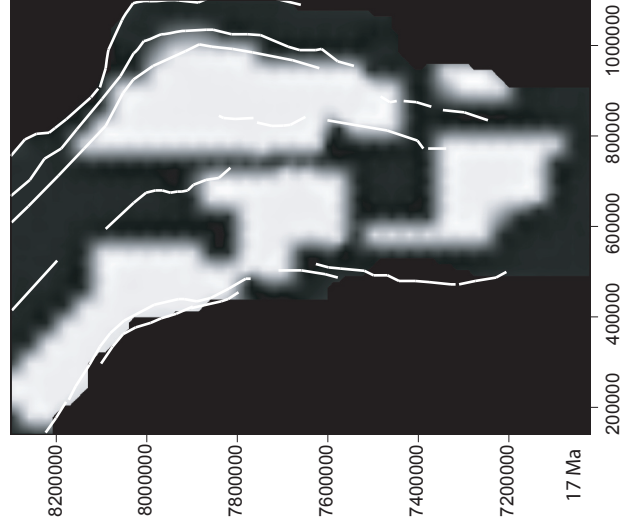
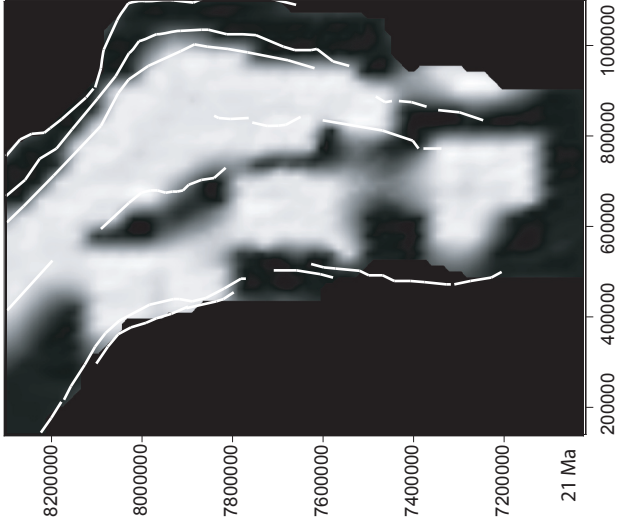
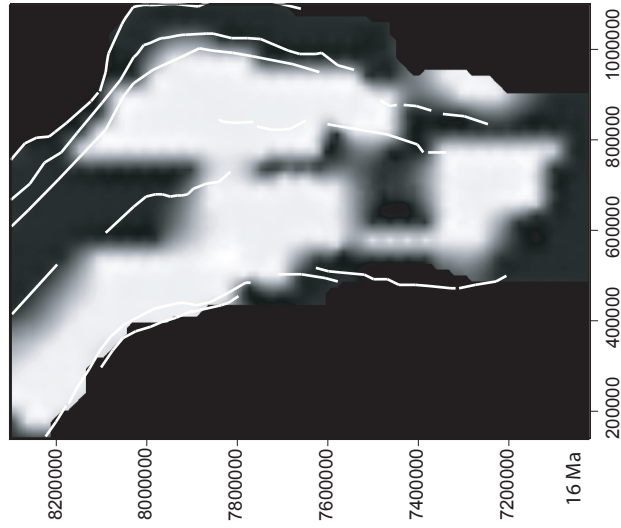
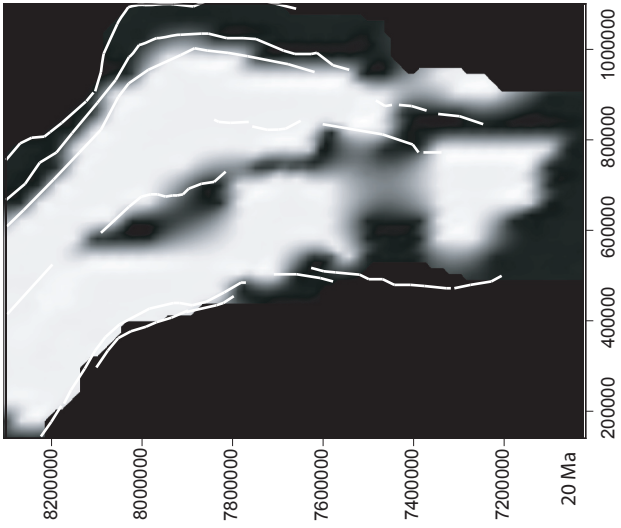
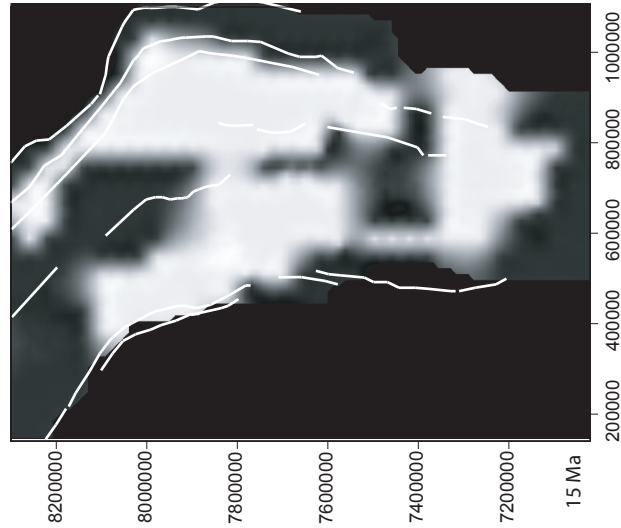
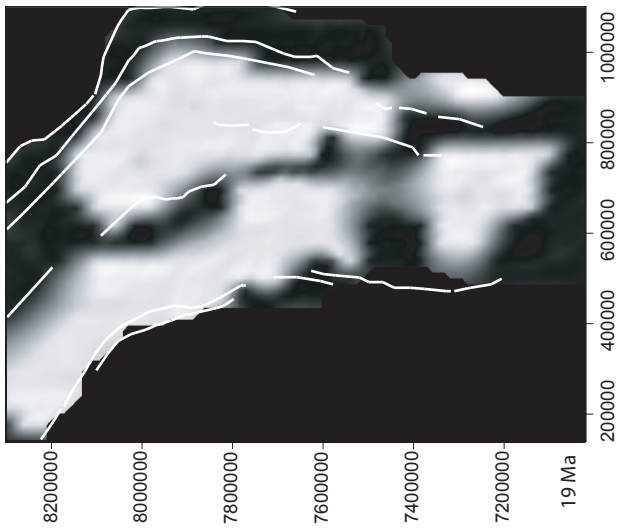
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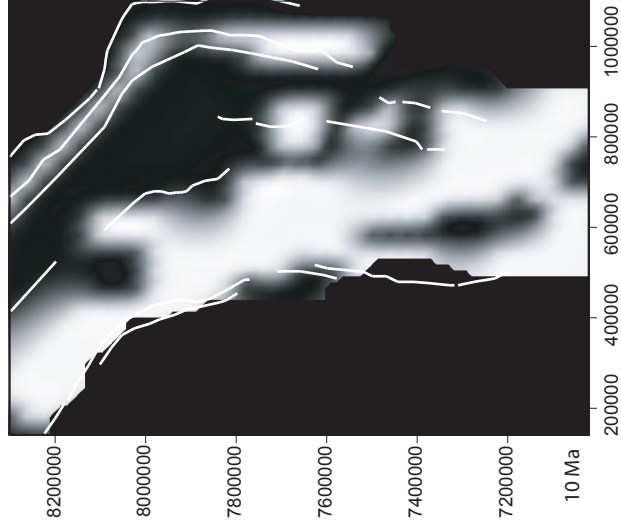
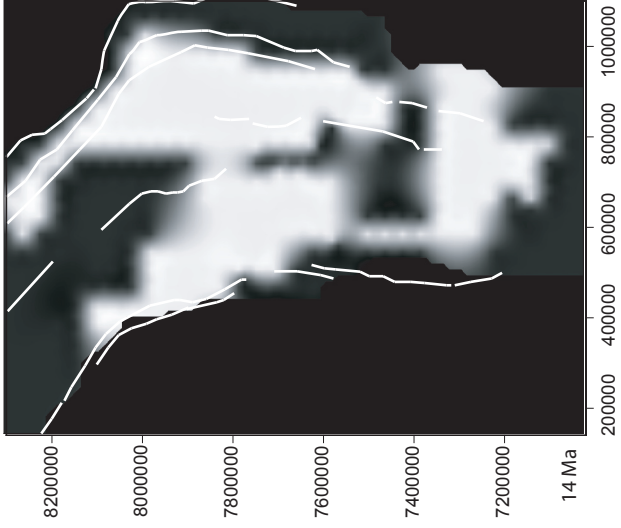
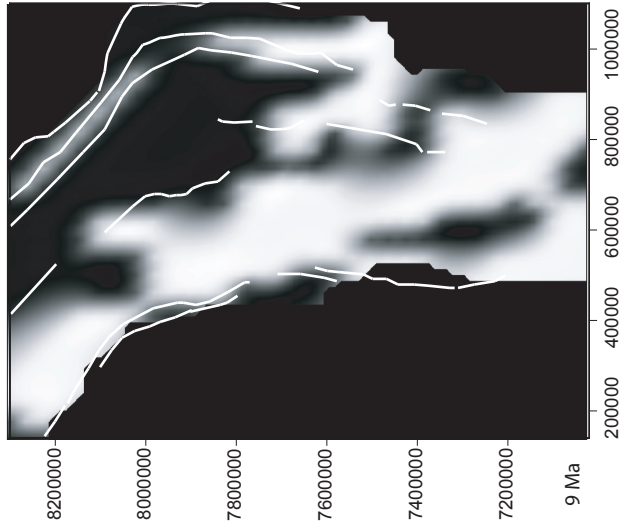
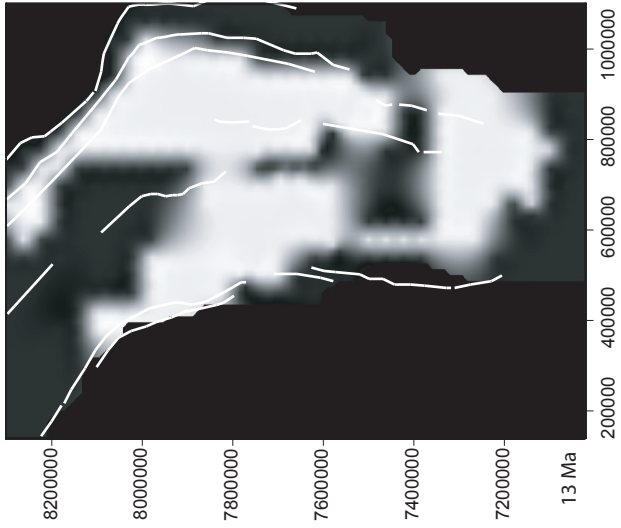
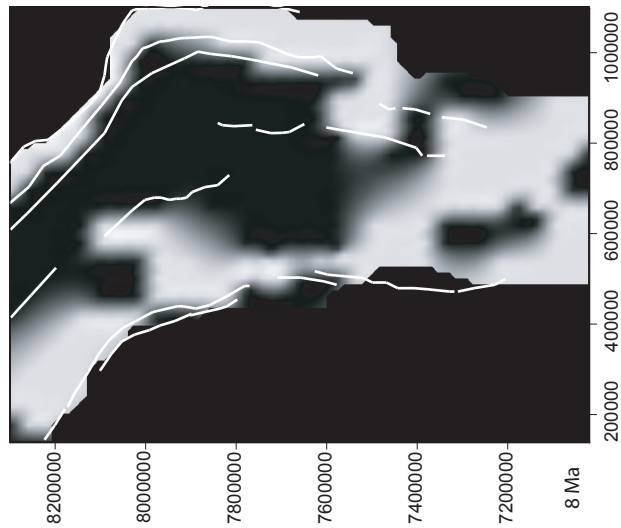
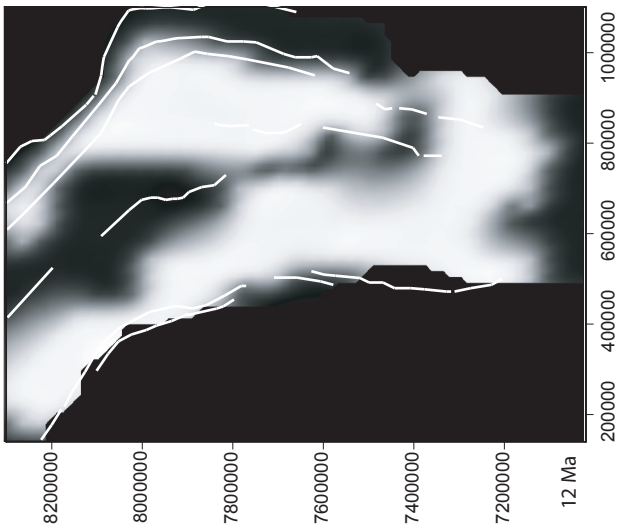
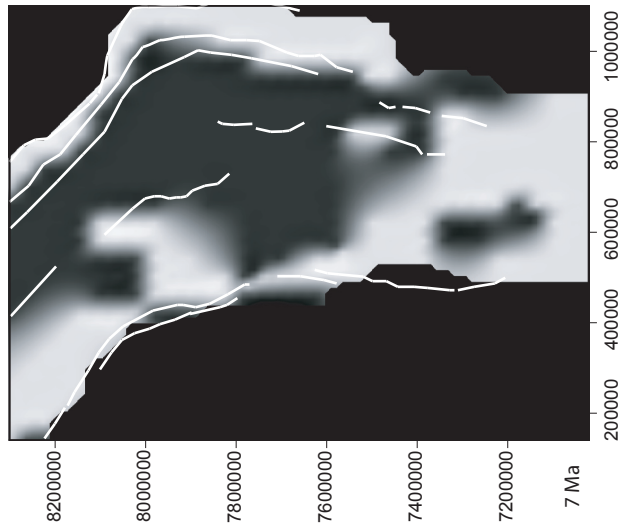
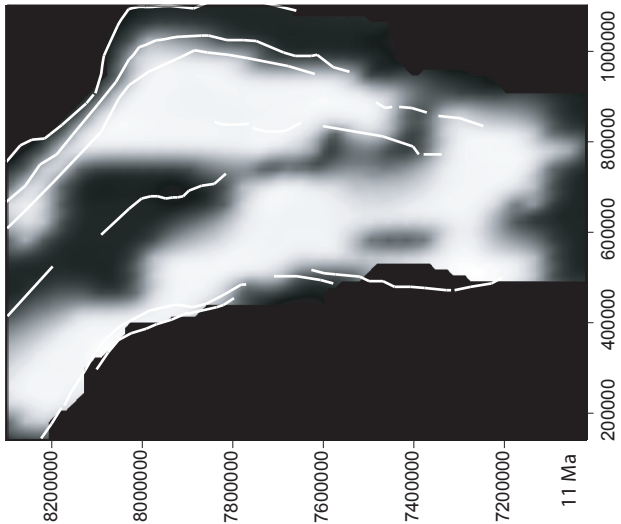
# **Deformation distribution in 1 Ma steps**

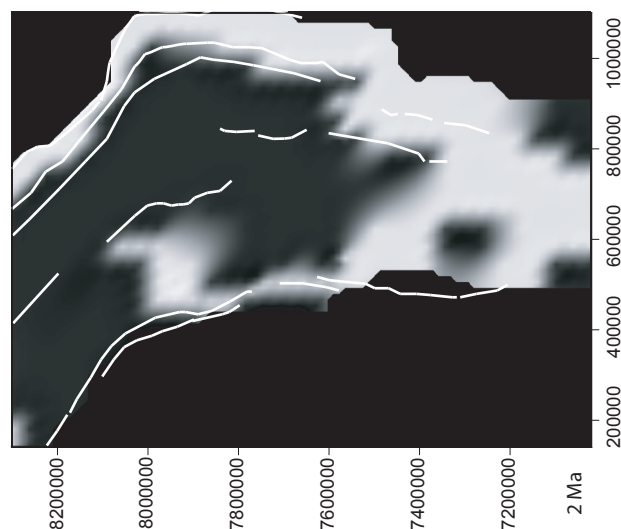
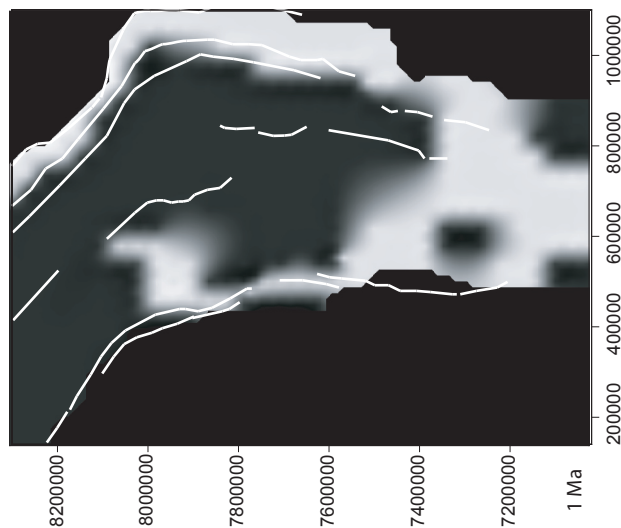
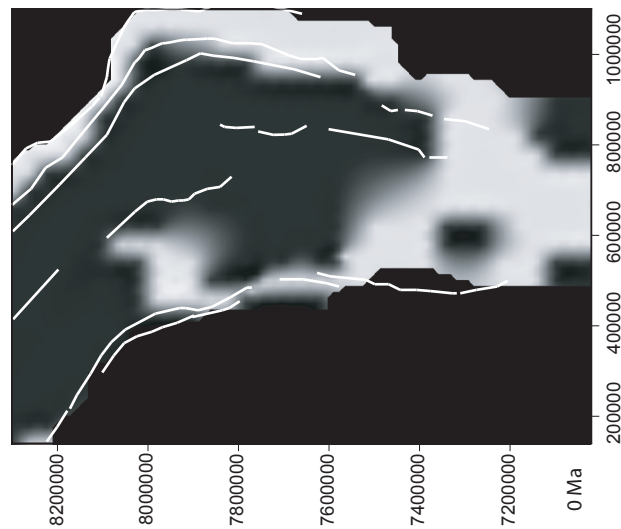
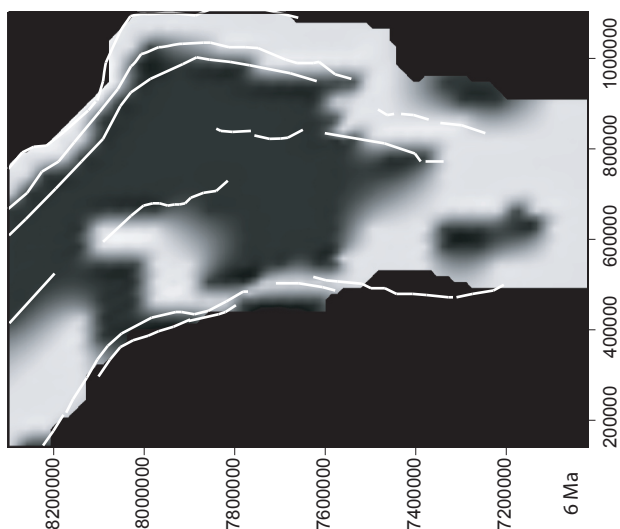
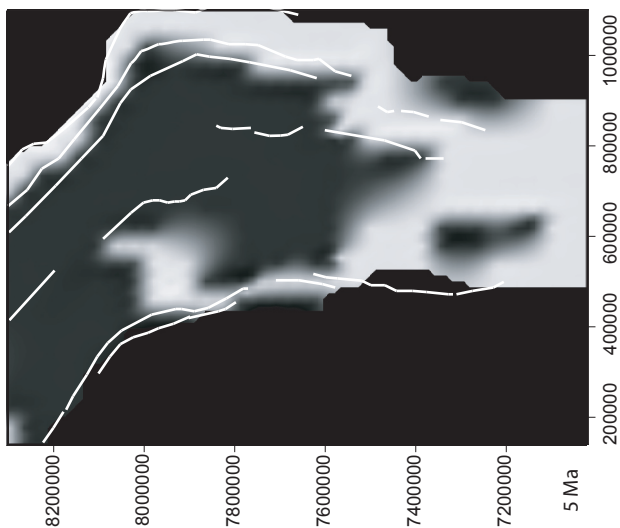
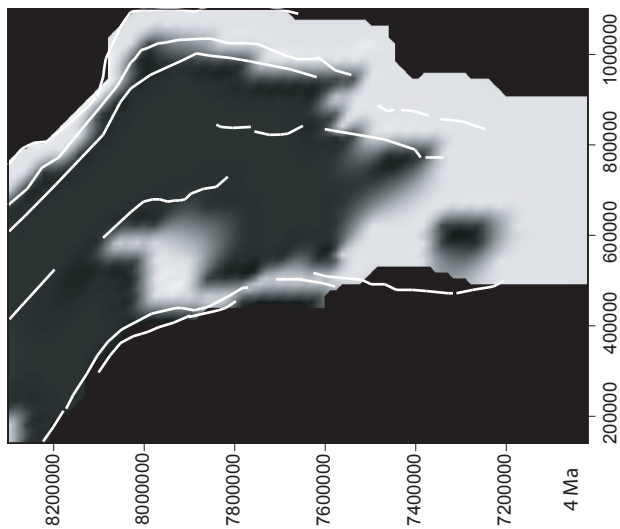
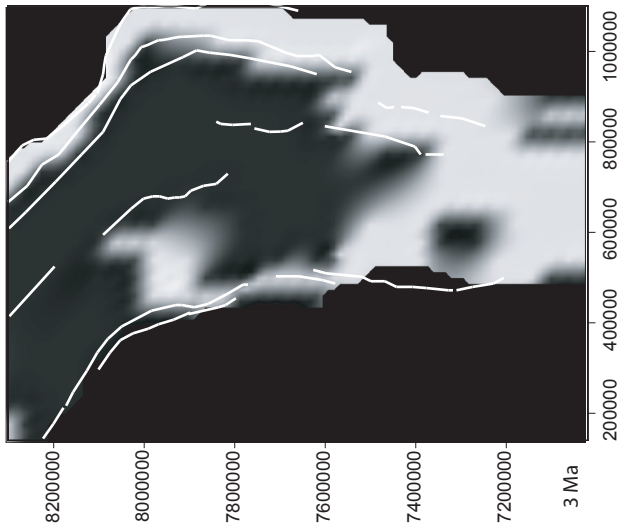








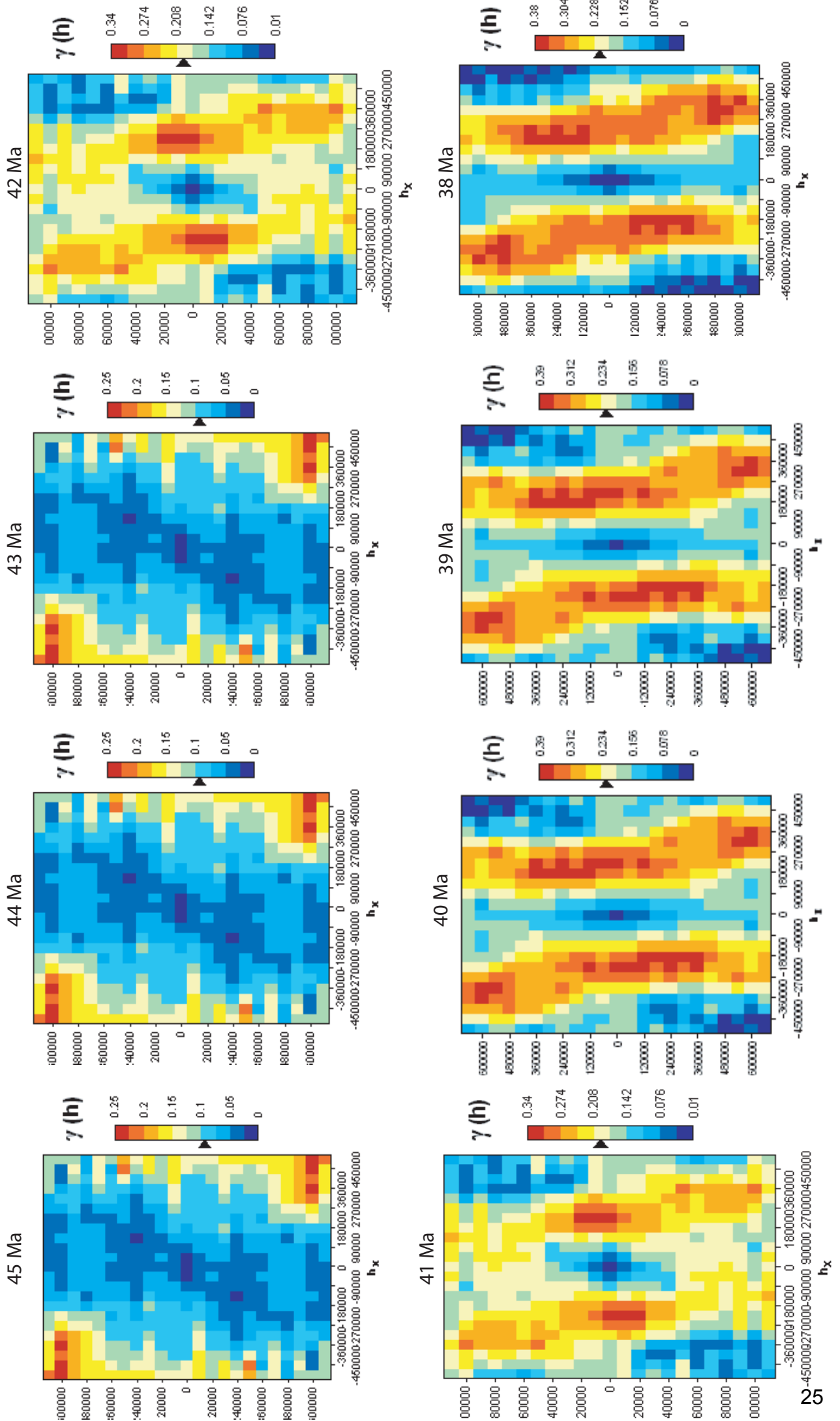


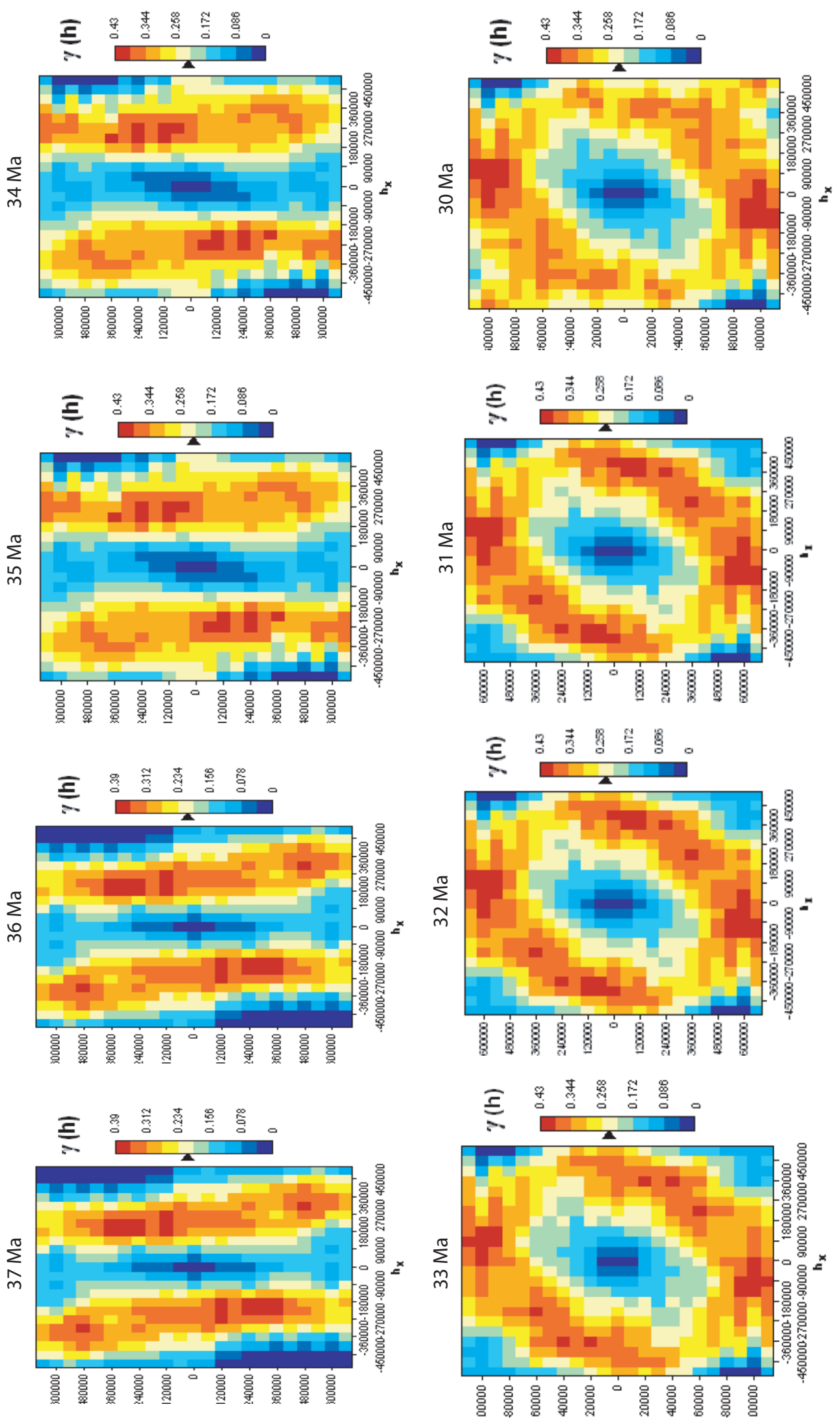


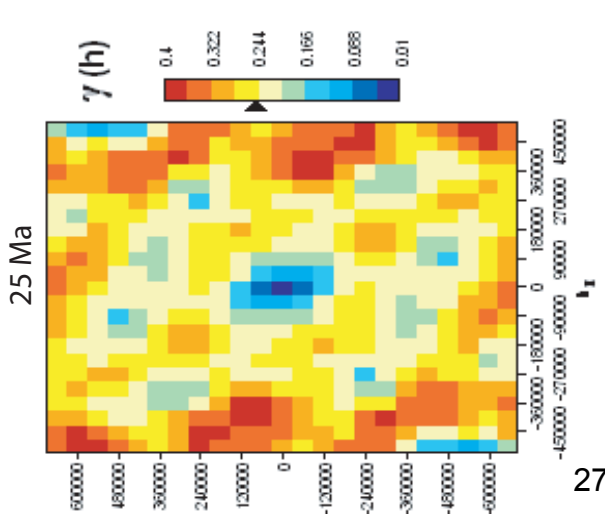
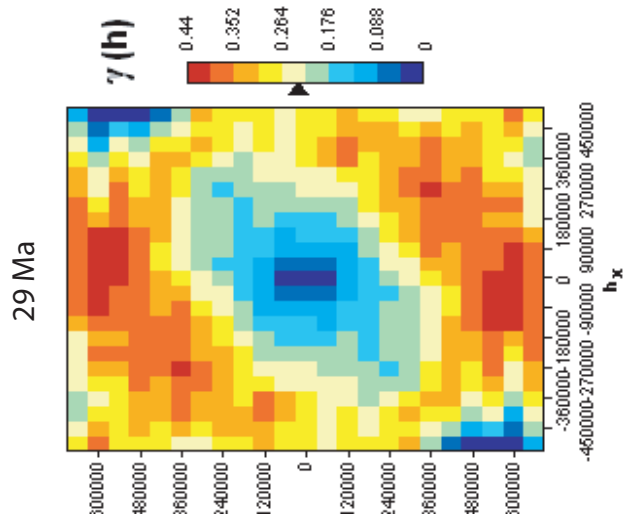
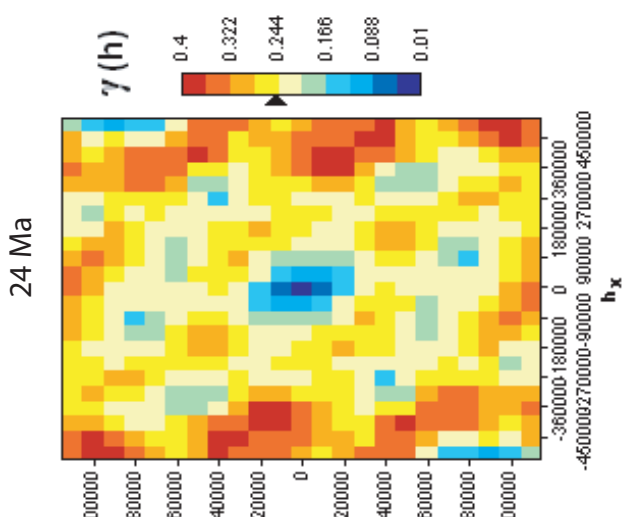
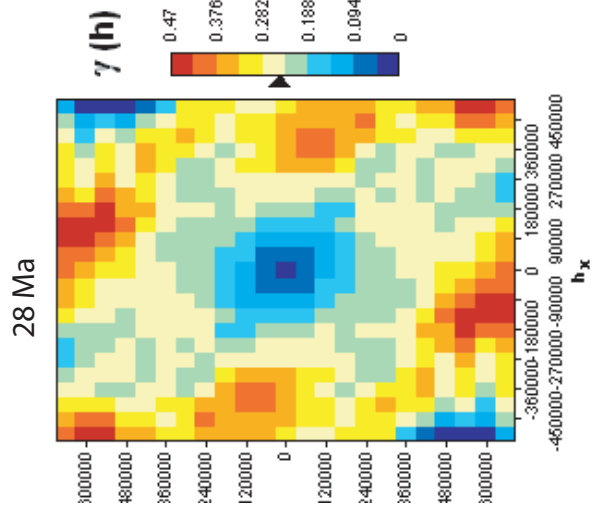
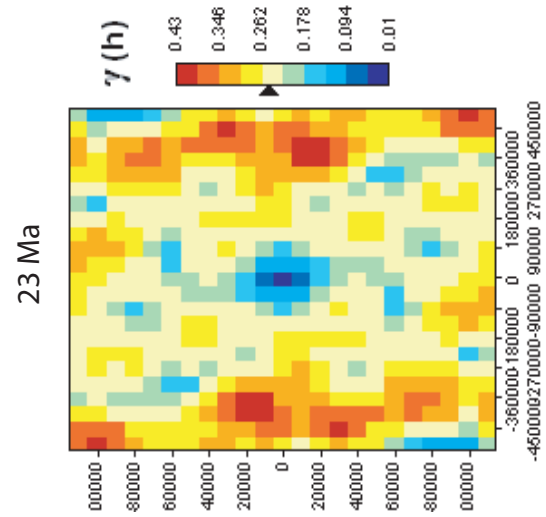
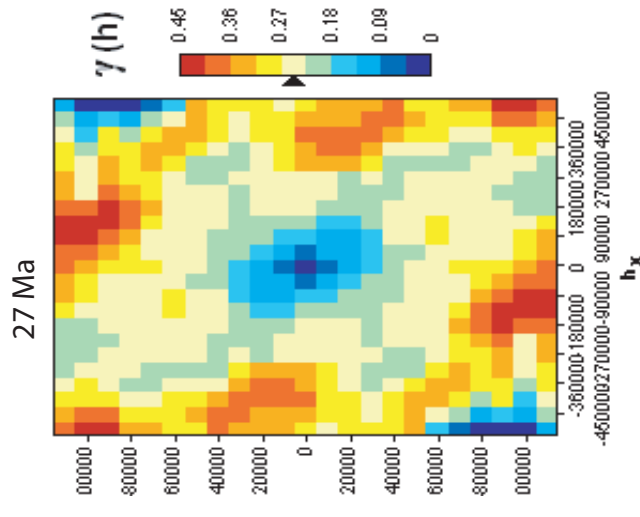
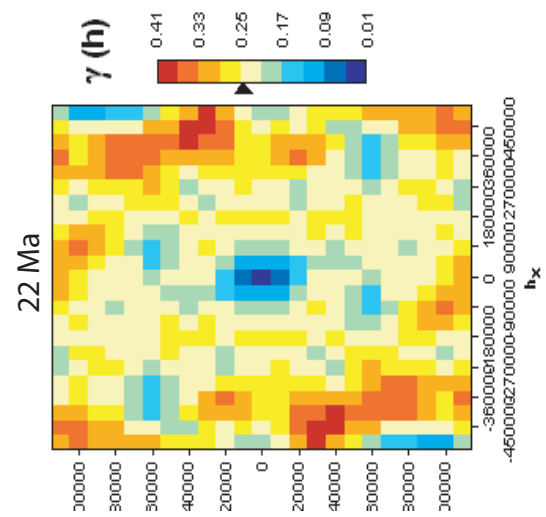
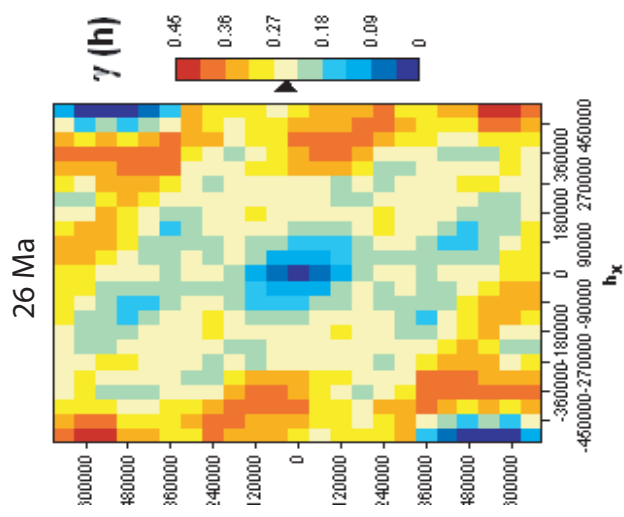
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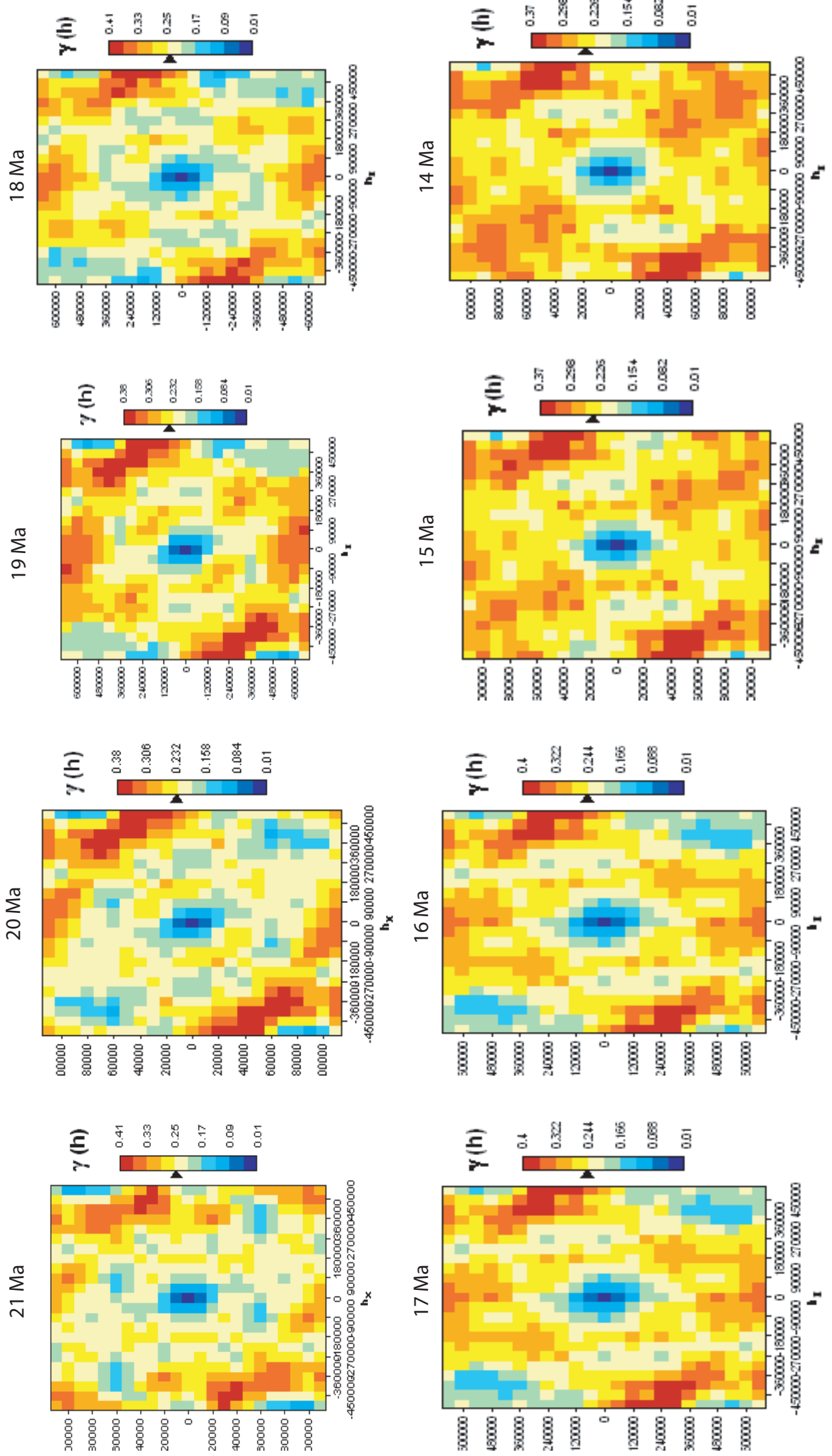
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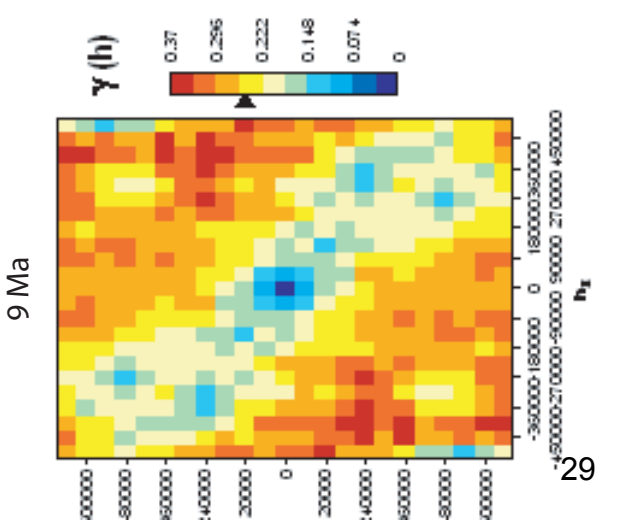
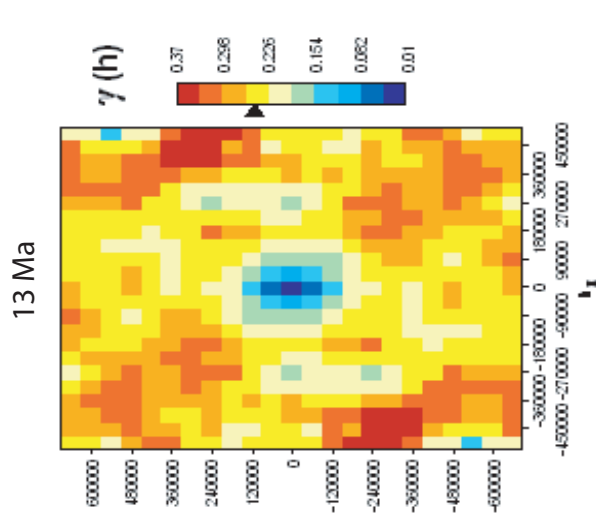
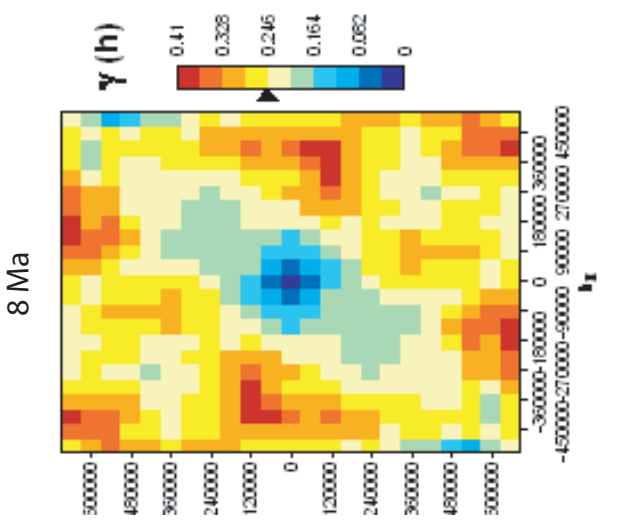
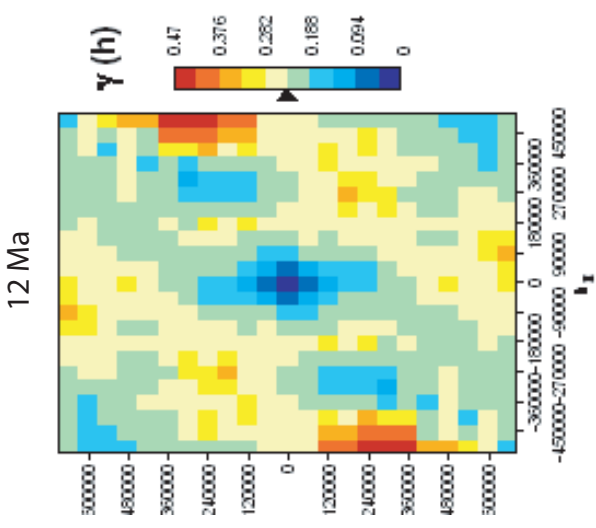
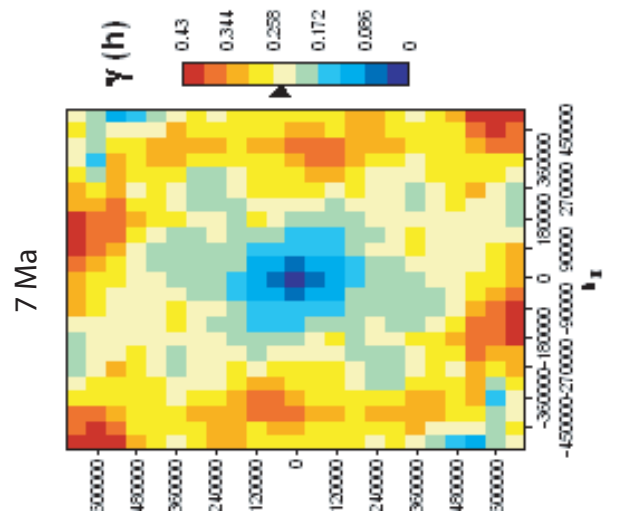
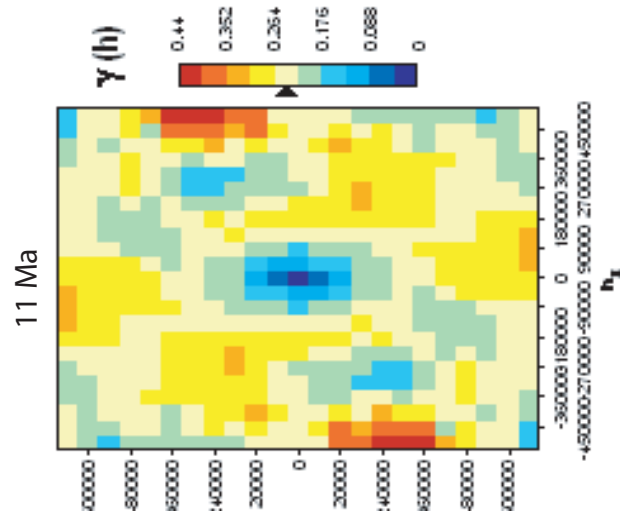
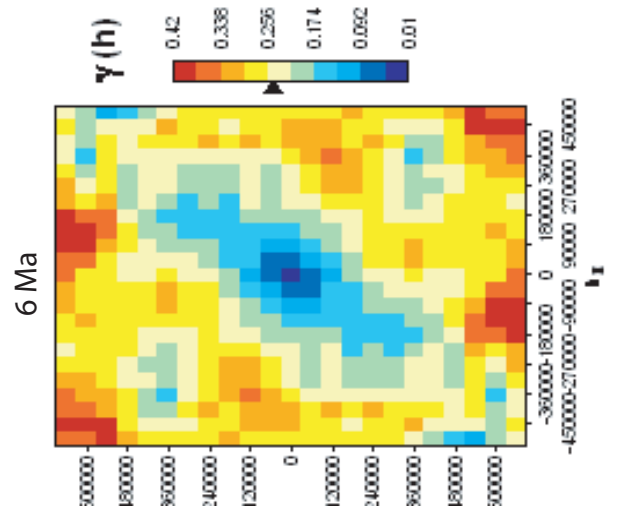
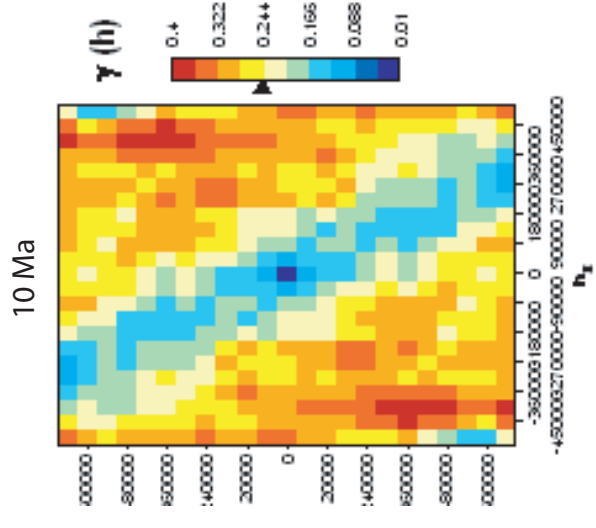


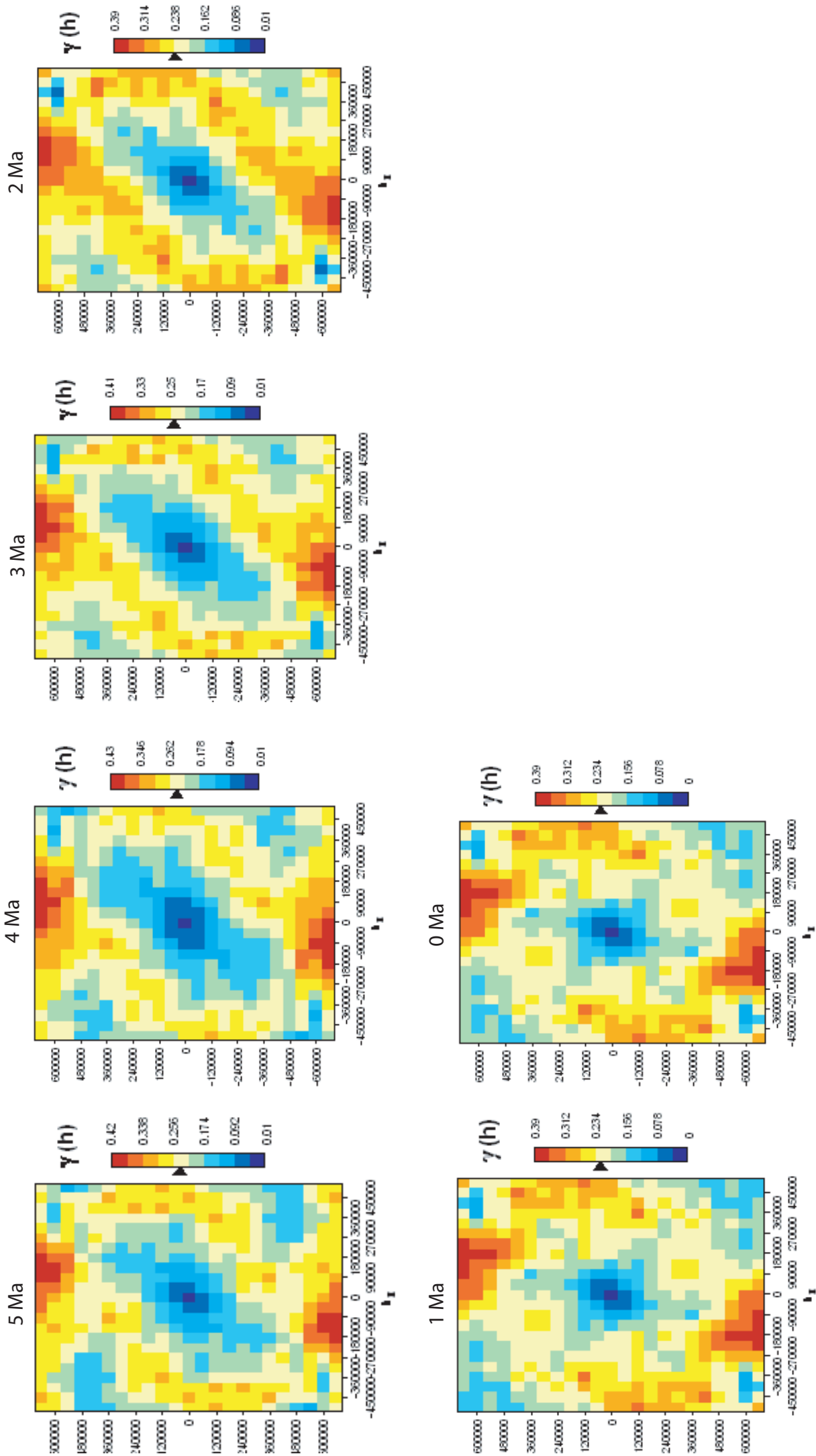












## **Appendix A-4**

# **Database Sensitivity Analysis**

number of active stages of ±1ma areas	number of active stages of ±1ma areas	ID	no	location	begin	stop	number of points in unit	intersecting points	points total	change of active points plus or minus	changing points	effectively changed points	latitude for shortening estimates	unit
43-42	2	14	1	Eastern Cordillera, central	42	25	52		58	plus 52	58	58	17-22.5	Eastern Cordillera
		45	1	Eastern Cordillera W-margin	42	32	6			plus 6			17.5-18.5	Eastern Cordillera
41-40	4	29	1	Puna-W margin	46	40	1	4	26	minus 1	27	25	25	Altiplano
		85	1	Eastern Cordillera S	40	30	8	10		plus 8			22.5-23.0	Eastern Cordillera
		113	1	Eastern Cordillera S	40	8	2			plus 2			23	Eastern Cordillera
		88	1	Eastern Cordillera S	40	33	16	17		plus 16			23-25	EastC+AP+FTB
38-37	2	23	1	Atacama, Cordillera Domeyko	60	38	3	4	11	minus 3	9	-9	22.5-24.0	Altiplano
		28	1	Precordillera	46	38	7	9		minus 7			20-21	Western Cordillera
34-33	4 (5)	16	1	Eastern Cordillera W-margin	33	27	2	4	51 (60)	plus 2 (4)	51 (57)	13 (7)	21	Eastern Cordillera
		18	1	Altiplano S	33	28	24			plus 24			20-22.5	Altiplano
		43	1	Altiplano, Tambo-Tambillo	32	25	6			plus 4			19-20	Altiplano
		88	1	Eastern Cordillera S	40	33	16	19		minus 16 (19)			23-25.5	Eastern Cordillera+AP
		216	1	(Eastern Cordillera N)	45	35	9			minus 6			17	Eastern Cordillera
29-28	10	16	1	Eastern Cordillera W-margin	33	27	2	4	84	minus 2 (4)	59	51	20-21	Eastern Cordillera
		18	1	Altiplano S	33	28	24			0			20-22.5	Altiplano
		18	2	Altiplano S	28	19	24			0			20-22.5	Altiplano
		21	1	AP-W margin	29	23	5	6		plus 5 (6)			20-21	West C+Altiplano
		66	1	Santa Barbara belt (zone 20)	28	11	4	6		plus 4 (6)			24-25	fold-and-thrust belt
		91	1	Eastern Cordillera N	28	19	20	22		plus 20 (22)			15-17	Eastern Cordillera
		103	1	Corque Syncline	28	14	9			plus 9			17-18	Altiplano
		120	1	AP-W margin/ Western Cordillera	28	22	1			plus 1			19	Western Cordillera
		210	1	Salar de Antofalla	28	25	2			plus 1			25.5	Altiplano
		1	1	Eastern Cordillera W-margin	28	17	16	17		plus 9 (10)			17-19	East C+Altiplano
24-23	8	21	1	AP-W margin	29	23	5	6	80	minus 5 (6)	30	18	20-21	West C+Altiplano
		31	1	AP-W margin	22	6	5			plus 5			17-18	Altiplano
		32	1	AP-W margin	22	6	4			plus 4			18-18.5	West C+Altiplano
		33	1	AP-W margin	22	6	1	3		plus 1 (3)			19-20	West C+Altiplano
		36	1	Western Cordillera, Chuca-Lauca basin	22	7.5	6	9		plus 6 (9)			18.5-19.0	Altiplano
		64	1	Eastern Cordillera, central	23	10	16	18		plus 2 (3)			21-23	Eastern Cordillera
		120	1	AP-W margin/ Western Cordillera	28	22	1			0			19	Western Cordillera
		6	1	Eastern Cordillera, central	23	10	48			0			17-21	Western Cordillera
20	6	18	2	Altiplano S	28	19	24		54	0	30	-18	20-22.5	Altiplano
		18	3	Altiplano S	19	8	24			0			20-22.6	Altiplano
		21	2	AP-W margin	20	7	5	6		plus 5			20-21	West C+Altiplano
		35	1	Eastern Cordillera S	20	2	2			plus 1			25.5	Altiplano
		91	1	Eastern Cordillera N	28	19	21	25		minus 20 (24)			15-17	Eastern Cordillera
		210	2	Salar de Antofalla	20	17	2			0			26.5	Altiplano
18-17	7	25	1	Atacama basin	18	11	4		38	plus 4	24	-12	22.5-24.0	Altiplano
		43	2	Altiplano, Tambo-Tambillo	17	12	6			plus 4			19-20	Altiplano
		73	1	Calama basin	25	17	1			minus 1			22.5	Altiplano
		1	1	Eastern Cordillera W-margin	28	17	16	18		minus 14 (15)			17-19	East C+Altiplano
		12	1	Eastern Cordillera W-margin	30	17	9			0			21	Eastern Cordillera
		12	2	Eastern Cordillera W-margin	17	8	9			0			21	Eastern Cordillera
		210	2	Salar de Antofalla	20	17	2			0			25.5	Altiplano
16-15	7	2	1	Corque syncline	14	10	9		60	0	25	5	17.5-18.8	East C+Altiplano



72	1	Eastern Cordillera N	15	10	5	30	plus 3	16-16.5	Eastern Cordillera
94	1	Puna	14	1	28	30	plus 4 (6)	24-25.5	East C+Altiplano
95	1	Puna	26	15	24		minus 1	24-25.5	Altiplano
103	1	Corque syncline	28	14	9		minus 9	17-18	Altiplano
111	1	Eastern Cordillera S - Puna	14	10	9	11	0	22.5-23.0	Eastern Cordillera
162	1	Eastern Cordillera S	15	7	3	6	plus 4 (6)	24-25	Eastern Cordillera
25	1	Atacama basin	18	11	4		minus 4	22.5-24.0	Altiplano
27	1	Puna-W margin	12	0	4	38	plus 4	22.5-24.0	Altiplano
30	1	Puna-W margin	12	0	3	6	plus 3 (6)	25-25.5	Altiplano
34	1	AP-W margin	12	6	3		plus 3	21-22.5	Altiplano
43	2	Altiplano, Tambo-Tambillo	17	12	6		minus 4	19-20	Altiplano
48	1	Subandean E (zone 20)	11 (10)	2	6		(plus 3)	21	Eastern Cordillera
66	1	Santa Barbara belt (zone 20)	28	11	4	6	minus 4 (6)	24-25	FTB
202	1	Puna	11	2.5	2		plus 2	25.5-27.0	Altiplano
201	1	Puna	13,4	3	2	2	plus 1	25,5	FTB
212	1	Salar de Antofalla	12	10	1	4	0	25,5	FTB
24	1	Atacama, Cordillera Domeyko	12	0	3	4	plus 3 (4)	22.5-24.0	Altiplano
2	1	Corque syncline	14	10	9		plus 3	17.5-18.5	East C+Altiplano
25	1	Atacama basin	18	11	4	172	minus 4	22.5-24.0	Altiplano
39	1	Puna	25	10	6	9	minus 3 (6)	24-25	Altiplano
41	1	Corque syncline	10	5,4	10		plus 7	16.5-18.5	East C+Altiplano
48	1	Subandean E (zone 20)	11	2	6	17	plus 3	21	FTB
64	1	Eastern Cordillera, central	23	10	16	6	minus 9 (10)	21-23	Eastern Cordillera
66	1	Santa Barbara belt (zone 20)	28	11	4	6	minus 4 (6)	24-25	FTB
69	1	Subandean	10	0	17		plus 10	20-23	FTB
70	1	Sierras Pampeanas	10	3	33		plus 27	25.5-27.0	Altiplano+FTB
72	1	Eastern Cordillera N	15	10	5		minus 3	16-16.5	Eastern Cordillera
111	1	Eastern Cordillera S - Puna	14	10	9	11	minus 6 (7)	22.5-23.0	Eastern Cordillera
114	1	Subandean (partly zone 20)	10	0	23	25	plus 12	19-21	FTB
198	1	Puna	10	4,5	1	2	0	25,5	Altiplano
199	1	Puna	10	1,3	1	2	plus 1 (2)	27	Altiplano
202	1	Puna	11	2,5	2		plus 1	25.5-27.0	Altiplano
212	1	Salar de Antofalla	12	10	1	2	0	25,5	Altiplano
215	1	Precordillera, Faila Oeste (ss)	10	0	1		plus 1	22,5	Western Cordillera
4	1	Eastern Cordillera E	35	10	23		minus 22	18-21	Eastern Cordillera+FTB
6	1	Eastern Cordillera, central	23	10	40		minus 31	17-21	Eastern Cordillera
18	3	Altiplano S	19	8	24		plus 24	20-22.5	Altiplano
21	2	AP-W margin	20	7	5	6	minus 4	20-21	West C+Altiplano
25	2	Atacama basin	7	0	4		plus 4	22.5-24.0	Altiplano
36	1	Western Cordillera, Chuca-Lauca basin	22	7,5	6	9	0	18.5-19.0	Altiplano
36	2	Western Cordillera, Chuca-Lauca basin	7,5	0,5	6	9	0	18.5-19.0	Altiplano
49	1	Subandean W (zone 20)	8	0	2	4	plus 2 (4)	21	FTB
50	1	Cochabamba shear zone (tp)	7	0	5		minus 2	17,5	Eastern Cordillera
55	1	Precordillera, Westcordillere	8	0	2		minus 2	18,5	Western Cordillera
81	1	AP-W margin (tt)	7	0	7		plus 3	19-22.5	West C+Altiplano
113	1	Eastern Cordillera S	40	8	2		minus 2	23	Eastern Cordillera
116	1	AP-W margin	9	7,7	4		minus 2	18-18.5	West C+Altiplano
140	1	Interandean	30	7	3	6	0	21-22.5	Eastern Cordillera+FTB
162	1	Eastern Cordillera S	15	7	3		0	24-25	Eastern Cordillera
166	1	Subandean	9	7,5	0		0	22.5-23.0	Eastern Cordillera+FTB

167	1	Subandean	8,5	7	2	plus 2	22.5-23.0	Eastern Cordillera+FTB
168	1	Subandean	7,6	4,5	0	0	22.5-23.0	Eastern Cordillera+FTB
169	1	Subandean	6,9	4	0	0	22.5-23.0	Eastern Cordillera+FTB
172	1	Subandean	9	7	5	plus 4	22.5-23.0	Eastern Cordillera+FTB
172	2	Subandean	7	2	5	plus 4	22.5-23.0	Eastern Cordillera+FTB
204	1	Puna	6,7	2,35	6	plus 5	27	Altiplano
12	2	Eastern Cordillera W-margin	17	8	9	minus 9	21	Eastern Cordillera
111	2	Eastern Cordillera S - Puna	9	7	9	plus 6 (7)	22.5-23.0	Eastern Cordillera
162	2	Eastern Cordillera S	7	0	3	0	24-25	Eastern Cordillera
31	1	AP-W margin	22	6	5	minus 5	17-18	Altiplano
32	1	AP-W margin	22	6	4	0	18-18.5	West C+Altiplano
33	1	AP-W margin	22	6	1	minus 0 (2)	19-20	West C+Altiplano
34	1	AP-W margin	12	6	3	minus 2	21-22.5	Altiplano
41	1	Corque Syncline	10	5,4	10	minus 5	16.5-18.5	East C+Altiplano
42	1	Corque Syncline	5	0	5	minus 1	16.5-18.5	East C+Altiplano
51	1	Sierras Pampeanas	3,5	0	12	0	25.5-27.0	Altiplano
58	1	Eastern Cordillera, central (zone 20, ss)	4	3	0	0	19	Eastern cordillera
67	1	Santa Barbara belt (zone 20)	4	0,5	6	plus 6	24-25.5	FTB
87	1	Eastern Cordillera S	6	1	11	plus 9 (10)	22-24	East C+AP+West C
168	1	Subandean	7,6	4,5	0	0	22.5-23.0	Eastern Cordillera+FTB
169	1	Subandean	6,9	4	0	0	22.5-23.0	Eastern Cordillera+FTB
170	1	Subandean	4	3	0	0	22.5-23.0	Eastern Cordillera+FTB
184	1	Puna	4	0	2	0	24	Altiplano
191	1	Puna	6	0,5	0	0	25,5	Altiplano
198	1	Puna	10	4,5	1	0	25,5	Altiplano
214	1	Salar de Antofalla (ss)	5	1,5	1	plus 1	25,5	Altiplano
73	2	Calama basin	5	0	1	0	22,5	Altiplano
212	2	Salar de Antofalla	4	0	1	plus 1 (2)	25,5	Altiplano
19	6-5						57	
							34	
							4	

## Sensitivity analysis

### Dependence of stage boundaries on respective units:

boundary	unit
43-42	Eastern Cordillera
41-40	Eastern Cordillera + fold-and-thrust belt
38-37	Altiplano
34-33	Eastern Cordillera + fold-and-thrust belt + Altiplano
29-28	Eastern Cordillera + fold-and-thrust belt + Western Cordillera
24-23	fold-and-thrust belt + Western Cordillera
21-20	Western Cordillera
20-19	Eastern Cordillera
18-17	Eastern Cordillera
16-15	fold-and-thrust belt
13-12	Altiplano
11-10	Eastern Cordillera
9-8	fold-and-thrust belt
6-5	fold-and-thrust belt

boundary	total active points	points changed	number of areas	result	significant?
43-42	58	58	2	1	x
41-40	26	26	4	1,25	x
38-37	11	9	2	0,818181818	
34-33	51	51	4	1,25	x
29-28	84	59	10	3,511904762	x
24-23	80	30	8	0,9375	
20-19	54	30	6	0,925925926	
18-17	38	24	7	1,263157895	x
16-15	60	25	7	0,833333333	
13-12	38	34	11	8,947368421	x
11-10	172	155	19	2,574750831	x
9-8	90	76	23	5,62962963	x
6-5	57	34	19	1,704260652	x

### significant when

$[(\text{number of points changed} * 10) / \text{total number of points}] / 12 - \text{number of active areas} > 1$