Additional file 1 for "GPS-based slip models of one M_w 7.2 and twenty moderate

earthquakes along the Sumatran plate boundary"

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This additional file presents a catalog of GPS-based uniform slip models for one M_w 7.2 and 20 moderate (5.9 $\leq M_w <$ 7) events along the Sumatran plate boundary between 2002 and 2013 detected by the SuGAr network.

The figures are contour maps showing the error-weighted variance explained with the preferred model outlined as a black box. Yellow stars, orange triangles, blue diamonds, and red inverted triangles represent the epicenter locations from the ANSS (NCEDC 2016), ISC (International Seismological Center, 2016), ISC-EHB (Engdahl et al. 1998; Weston et al. 2018), and ISC-GEM (Storchak et al. 2013, 2015) teleseismic catalogs, respectively. Focal mechanisms are placed at the gCMT centroid locations (Dziewonski et al. 1981; Ekström et al. 2012). Red circles are the SuGAr stations that had been installed before the event, while white circles are those installed later or decommissioned before the event. Green and red vectors represent the observed vertical and horizontal displacements, while black vectors represent the displacements predicted from our best-fit models. Gray dashed lines delineate the inferred subducted fracture zones underneath Simeulue (Franke et al. 2008) and Batu Islands (Pesicek et al. 2010) based on seismicity. Brown lines indicate slab contours at 20 km, 40 km, and 60 km intervals from Slab1.0 (Hayes et al. 2012).

The tables summarize all the parameters of our final models along with the relevant information from the gCMT and ANSS catalogs and the coseismic offsets obtained from Feng et al. (2015).

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S1. Megathrust EventsS1.1 The 26 February 2005 M_w 6.7 Simeulue Event



]	Loc	ation /	0			Depth / km				
Date	М,	v	Mo	Model		gCMT			AN	SS	Mo	del	aCM	T	ANGG
		Le	on	La	i t]	Lon	ı La	t	Lon	Lat	Z 1	Z ₂	gew		ANSS
200502	26 6.7	7 95.4	142	2.83	59 9	5.40	0 2.8	0	95.592	2.908	15.5	18.	5 12.0)	36.0
Rak	xe / °	Str	ike /	0	I	Dip	/ •		Patch	1 Dimensions		6	lin / m		0/ 0/
Model	gCMT	Mode	gC	CMT	Mod	elg	gCMT]	Len / km	Are	a / km ²	2	пр/ш	,	/e / /0
35.6	66	302.6	2	.94	10.8	3	6		28.12	4	68.9		.0043	9	5.95%

		Displacement / mm								
		(E)	(N)	(V)						
IEWIZ	(0)	-47.1 ± 1.0	$\textbf{-10.8} \pm 1.0$	0.7 ± 2.2						
LEWK	(M)	-43.32	-10.45	-19.00						

S1.2 The 14 May 2005 M_w 6.7 Nias-Batu Event



					Loc	ation / °				D	epth / km	
Date	Ì	M_w	N	Iodel	g	gCMT		SS	Mo	del	GCMT	ANSS
			Lon	Lat	t Lor	n Lat	Lon	Lat	Z 1	Z ₂	gewii	ANSS
200505	14	6.7	98.24	1 0.50	2 98.2	4 0.42	98.459	0.587	32.6	38.0) 39.0	34.0
Rak	ae / °		Stril	ke / °	Dij	o / º	Patc	h Dime	nsions		Slin / m	na / 9/-
Model	gCM	1 T 1	Model	gCMT	Model	gCMT	Len / kr	n A	rea / kr	n ²	Sub / m	Ve / 70
129.3	88		324.3	326	19.3	22	28.12		468.9		1.0043	99.93%

		Displacement / mm								
		(E)	(N)	(V)						
	(0)	6.0 ± 0.7	$\textbf{-9.8}\pm0.8$	4.6 ± 2.4						
FILU	(M)	5.98	-9.78	5.73						
DDAI	(0)	1.4 ± 0.8	$\textbf{-12.0}\pm0.8$	7.9 ± 2.3						
r dAl	(M)	1.56	-12.08	7.44						

S1.3 The 05 July 2005 M_w 6.6 Nias Event



		M _w		Location / °								Depth / km					
Date	e 1		Model			gCMT			AN	SS	Mo	del	GCM	ANSS			
			I	on	Lat	Ι	lon	Lat		Lon	Lat	z ₁	Z ₂	gewi	ANSS		
200507	705 6	5.6	97	.055	1.778	9	6.93	1.56	5	97.082	1.819	23.2	27.	0 16.0	21.0		
Rak	ke / °	5	Stril	ke / °		Dij	p / °			Patch l	Dimensi	ons	Slin / m		na / 9/		
Model	gCMT	Mo	del	gCM	ГМо	del	gCM	IT	Le	en / km	Area	a / km ²		sub / m	VE / 70		
142.2	107	332	2.6	329	14	.5	8			24.66	3	59.8		0.9013	97.24		

	Displacement / mm								
	(E)	(N)	(V)						
(0)	4.3 ± 0.7	$\textbf{-20.7}\pm0.6$	-1.3 ± 2.4						
(M)	4.75	-19.84	12.15						

S1.4 The 27 July 2006 M_w 6.3 Nias Event



				Loc	ation / °				D	epth / km	
Date	M"	N	Iodel	g	СМТ	AN	ANSS		del	CMT	ANGS
		Lon	Lat	: Lor	n Lat	Lon	Lat	z ₁	Z ₂	gemi	ANSS
200607	27 6.3	97.03	5 1.56	7 97.0	1 1.66	97.146	1.707	20.7	23.2	2 15.0	20.0
Rak	xe / °	Stri	ke / °	Dij	o / º	Patc	h Dime	nsions		Slin / m	na / 9/
Model	gCMT	Model	gCMT	Model	gCMT	Len / kr	n A	rea / kr	n ²	Sup / m	VE / 70
98.1	115	332.1	336	13.4	5	16.63		181.6		0.6515	99.99%

		Displacement / mm								
		(E)	(N)	(V)						
	(0)	3.3 ± 0.5	$\textbf{-6.7}\pm0.5$	6.9 ± 1.9						
LIIWA	(M)	3.34	-6.67	7.06						

S1.5 The 11 August 2006 M_w 6.2 Simeulue Event



				Loc	ation / °			Depth / km					
Date	M	v	Mod	lel	g	СМТ	AN	SS	Mo	del	GCMT	ANSS	
		Lo	n	Lat	Lor	n Lat	Lon	Lat	Z 1	Z 2	gewii	AIISS	
200608	11 6.2	2 96.3	02	2.21	7 96.1	8 2.10	96.348	2.406	14.3	16.2	20.6	22.0	
Rak	xe / °	Str	ike /	0	Dip	o / º	Patc	h Dime	nsions		Slin / m	na / 9/	
Model	gCMT	Mode	gC	MT	Model	gCMT	Len / kı	n A	rea / kr	n ²	Sub / m	Ve 1 70	
134.1	77	313.2	3	01	11.0	12	14.59		143.2		0.5846	99.63	

		Displacement / mm								
		(E)	(N)	(V)						
DCIM	(0)	$\textbf{-2.9}\pm0.4$	-22.1 ± 0.3	-11.9 ± 1.1						
DOINI	(M)	-3.36	-21.20	-15.41						

S1.6 The 07 April 2007 M_w 6.1 Simeulue Event



				Loc	ation / °		Depth / km					
Date	$M_{ m H}$, N	Iodel	g	СМТ	AN	ANSS		del	GCMT	ANSS	
		Lon	Lat	t Lor	1 Lat	Lon	Lat	Z 1	Z ₂	gewii	ANSS	
200704	07 6.1	95.64	2 2.82	5 95.4	8 2.74	95.700	2.916	17.9	19.8	12.0	30.0	
Rak	xe / °	Stri	ke / °	Dij	p / º	Patc	h Dime	nsions		Slin / m	na / 9/	
Model	gCMT	Model	gCMT	Model	gCMT	Len / kr	n A	rea / ki	n ²	Sub / m	VE / 70	
55.1	65	301.5	293	12.3	8	12.79		113.0		0.5247	90.59	

		Displacement / mm								
		(E)	(N)	(V)						
IFWK	(0)	-14.6 ± 0.5	$\textbf{-8.9}\pm0.5$	-9.2 ± 1.3						
	(M)	-9.96	-6.27	-10.29						





					Lo	cation /	0			Depth / km					
Date .		M_w	N	Iodel	g	gCMT		ANS	5S	Mo	del	GCM	ANSS		
			Lon	Lat	t Lo	n Lat	t	Lon	Lat	Z 1	Z ₂				
200709	20	6.7	99.99	99.996 -1.989		99.85 -2.24		100.141	-1.999	31.7	35.7	32.3	30.0		
Rak	xe / °		Stril	ke / °	Dij	p / °		Patch 1	Dimensi	ons	SI	in / m	na / 0/		
Model	gCN	ЛТ	Model	gCMT	Model	gCMT		Len / km	Area	/ km ²	- 51	ир / ш	Ve / /0		
67.6	99	9	315.8	313	13.9	19		28.12	46	8.9	1.	0043	98.81		

		Disp	lacement /	mm
		(E)	(N)	(V)
DDNI	(0)	-22.6 ± 1.4	-5.7 ± 1.1	12.6 ± 3.3
rrNJ	(M)	-21.36	-5.20	17.94

S1.8 The 29 September 2007 M_w 6.0 Simeulue Event



				Loc	ation / °			Depth / km				
Date	М,	, N	Aodel	g	СМТ	AN	ANSS		del	GCMT	ANSS	
		Lor	ı Lat	t Loi	1 Lat	Lon	Lat	Z 1	Z 2	gewii	11100	
200709	29 6.0	95.63	34 2.83	5 95.3	9 2.71	95.523	2.900	18.2	19.9	15.0	35.0	
Rak	xe / °	Stri	ke / °	Dij	p / º	Patc	h Dime	nsions		Slip / m	na / 9/	
Model	gCMT	Model	gCMT	Model	gCMT	Len / kr	n A	rea / kr	n ²	Sub / m	VE / 70	
51.8	57	301.5	288	12.5	8	11.22		89.1		0.4709	95.62	

		Disp	olacement /	mm
		(E)	(N)	(V)
IEWK	(0)	-9.5 ± 0.4	-4.6 ± 0.3	- 7.4 ± 1.1
LEWK	(M)	-7.23	-3.94	-7.20

S1.9 The 04 January 2008 M_w 6.0 South Pagai Event



]	Loc	catio	on / °					Depth / km				
Date	M	r W	N	lod	lel		g	gCM	[T]	ANSS		Model		aCM1				
			Lon		La	t []	Loi	Lon Lat		Lon		Lat	z ₁ z ₂		gum	1		
200801	04 6.	0	100.76	59	-2.8	90 1	100.69 -3.0		-3.09)	101.032	-2.782	37.3	39.8	46.1		35.0	
Rak	ke / °		Stril	ke /	0	Ι	Dip	/ 0			Patch D	imensio	nensions		n / m		0/ 0/	
Model	gCMT	[]	Model	gC	CMT	Mod	el	gCN	AT	L	len / km	Area	/ km ²	51	h u u	ļ	/e / /0	
122.1	102		332.7 323 1		17.9	7.9 27			11.22 89.		.1 0.4		4709		42.76			

		Disp	lacement /	mm
		(E)	(N)	(V)
MEME	(0)	-3.9 ± 0.5	-5.6 ± 0.5	1.6 ± 1.5
WINNIN	(M)	-1.19	-1.28	-1.19

S1.10 The 22 January 2008 M_w 6.2 Nias Event



				Loc	ation / °				De	epth / km	
Date	M _w	, N	Iodel	g	СМТ	AN	ANSS		del	GCMT	ANSS
		Lon	Lat	: Lor	1 Lat	Lon	Lat	z ₁	Z ₂		ANSS
200801	22 6.2	97.41	7 1.05	7 97.1	8 0.87	97.442	1.011	21.6	23.8	23.0	20.0
Rak	xe / °	Stri	ke / °	Dij	p / °	Patc	h Dime	nsions		Slin / m	na / 9/
Model	gCMT	Model	gCMT	Model	gCMT	Len / kr	n A	rea / kr	n ²	Sub / m	VE / 70
52.0	103	325.2	332	13.3	17	14.59		143.2		0.5846	98.69

		Disp	lacement /	mm
		(E)	(N)	(V)
DITI	(0)	-7.0 ± 0.3	$\textbf{-}0.5\pm0.3$	$\textbf{-}1.0\pm0.9$
DIII	(M)	-6.73	-0.51	-3.28

S1.11 The 03 March 2008 M_w 6.2 Sipora Event



			Location / °											Depth / km			
Date		Mw	I	Mode			gCN	ИT		ANSS		Model		1	сМТ	ANSS	
			Lon	ı	Lat	Lo	on	La	t	Lon	Lat	Z 1		Z ₂	gewii	ANSS	
200803	03	6.2	99.76	50 -2	.142	99.	99.68 -2.4		12	99.823	-2.18	23.9	2	5.8	23.0	25.0	
Rak	ae / °		Stril	xe / °		Dip	p / °			Patch I	Dimens	sions		SI	in / m	wa 9/-	
Model	gCM	T	Model	gCM	ΓΜ	lodel	gCI	MT	L	.en / km	Are	a / km²		51	ир / ш	VE / 70	
115.4	114	ŀ	317.6	17.6 323 11		1.0	0 17			14.59	1	143.2		0.	5846	83.30	

		Disj	placement / 1	nm
		(E)	(N)	(V)
KTET	(0)	5.2 ± 1.5	-13.5 ± 1.4	2.0 ± 4.0
KILI	(M)	3.23	-8.58	9.01
DVDT	(0)	-9.0 ± 1.3	-1.1 ± 1.3	0.5 ± 3.6
TKKI	(M)	-5.92	-0.31	6.33



S1.12 The 15 April 2009 M_w 6.3 South Pagai Event

						Lo	catio	on / °					Depth / km			
Date	N	1 _w	N	Iodel			gCN	1T	ANSS		Model		aCM			
			Lon	L	ıt	Lon La		Lat	Lo	on	Lat	Z 1	Z ₂	gem		
200904	15 6	.3	100.27	72 -3.3	19	100	.16	-3.40	100.	.471	-3.115	18.2	20.3	15.0	22.0	
Rak	ke / °		Stril	ke / °		Dip) / °		Pa	tch D	Dimensio	ons		n / m	na / 9/	
Model	gCM	Т	Model	gCMT	Mo	odel	gCN	MT	Len / l	km	Area	/ km ²	511	h u u	Ve / /0	
174.2	109		327.1	324	11	1.2	10	0	16.63 18		.6 0.6515		5515	97.76		

		Dis	placement /	mm
		(E)	(N)	(V)
DSAT	(0)	-1.3 ± 0.5	$\textbf{-19.1}\pm0.4$	-8.5 ± 1.4
DSAI	(M)	-1.39	-18.27	-13.17
DDVD	(0)	$\textbf{-4.9} \pm 1.2$	0.4 ± 1.4	-1.0 ± 2.0
IUND	(M)	-2.66	-7.53	-3.37



S1.13 The 9 May 2010 M_w 7.2 Simeulue Event

						Loc	ation / °					D	epth / km	
Date	M	I _w	N	Iodel		g	СМТ	Al	NSS		Mo	del	GCMT	ANGG
			Lon	La	ıt	Lon	l Lat	Lon	Ι	lat	z ₁	Z ₂	gemi	ANSS
201005	09 7.	.2	95.88	3 3.3	84	95.7	8 3.36	96.018	3.	748	34.5	44.1	37.2	38.0
Rak	e / °		Stril	ke / °		Dip) / °	Pat	ch D	ime	nsions		Slin / m	na / 9/
Model	gCM	ΓΙ	Model	gCMT	M	Iodel	gCMT	Len / k	m	A	Area / km ²		sup / m	VE / 70
76.8	88		303.9	308	1	19.8	15	54.20)		1534.6		1.7254	97.81

		Displacement / mm										
		(E)	(N)	(V)								
DCIM	(0)	1.6 ± 0.5	$\textbf{-4.8} \pm 0.6$	1.8 ± 1.7								
DSIN	(M)	3.88	-4.60	4.2								
IEWK	(0)	-14.1 ± 0.7	$\textbf{-65.0}\pm0.8$	39.4 ± 1.8								
	(M)	-13.07	-61.89	54.80								
IIMI H	(0)	-0.3 ± 0.3	-3.5 ± 0.3	-9.6 ± 1.1								
UMLII	(M)	-0.3	-3.43	-1.21								



S1.14 The 18 January 2011 M_w 5.9 Simeulue Event

						Loc	ation / °		D	epth / km			
Date	M	W	Model			gCMT		AN	SS	Mo	del	GCMT	ANSS
			Lon	L	ıt	Lon	l Lat	Lon	Lat	Z 1	Z 2	gemi	AIISS
201101	18 5.	9	96.17	5 2.3	43	96.1	7 2.38	96.404	2.632	14.8	16.2	2 15.0	21.0
Rak	xe / °		Stril	ke / °		Dip) / °	Patc	h Dime	ensions		Slin / m	wa / 0/
Model	gCMT	N	Model	gCM	N	/lodel	gCMT	Len / kı	n A	Area / km ²		Sup / m	VE / 70
63.9	83		308.8	306		11.5	9	9.84		70.3		0.4226	82.89

		Displacement / mm										
		(E)	(E) (N) (V)									
RNON	(0)	-2.1 ± 0.5	-3.5 ± 0.5	-0.9 ± 1.2								
DINUIN	(M)	-0.17	-1.20	-1.06								
BSIM	(0)	-12.6 ± 0.3	-7.0 ± 0.4	-5.8 ± 1.3								
	(M)	-7.75	-3.63	-7.15								

S1.15 The 06 April 2011 *M_w* 6.0 Nias Event



				Loc	ation / °		D	epth / km	oth / km			
Date	M_w	N	Iodel	g	СМТ	AN	SS	Model		GCMT	ANGG	
		Lon	Lat	t Loi	1 Lat	Lon	Lat	Z 1	Z ₂	gum	ANSS	
201104	06 6.0	97.20	6 1.68	1 96.8	2 1.40	97.097	1.615	27.2	29.5	24.4	25.3	
Rak	(e / °	Stri	ke / °	Dij	p / °	Patc	h Dime	nsions		Slin / m	na / 9/	
Model	gCMT	Model	gCMT	Model	gCMT	Len / kı	n A	Area / km ² SII		Sub / III	ve / 70	
131.3	104	331.9	329	16.4	21	11.22		89.1		0.4709	97.64	

		Displacement / mm										
		(E) (N) (V)										
1 1131/2	(0)	$\textbf{-}0.5\pm0.7$	$\textbf{-3.9}\pm0.7$	2.0 ± 1.7								
	(M)	-0.32	-3.58	3.22								

S1.16 The 25 July 2012 M_w 6.4 Simeulue Event



				Loc	ation / °				De	epth / km	
Date	$M_{\scriptscriptstyle W}$	N	Iodel	g	gCMT		ANSS		del	GCMT	ANSS
		Lon	Lat	Lor	1 Lat	Lon	Lat	Z 1	Z ₂	gemi	AUSS
201207	25 6.4	95.95	3 2.28	1 95.9	3 2.46	96.045	2.707	10.8	12.5	20.0	22.0
Rak	xe / °	Stri	ke / °	Dij	p / º	Patc	h Dime	nsions		Slin / m	na / 9/-
Model	gCMT	Model	gCMT	Model	gCMT	Len / kı	n A	rea / km ²		Sub / III	ve / 70
126.7	66	307.6	291	8.2	16	18.97		230.1		0.7259	99.26

		Displacement / mm										
		(E)	(N)	(V)								
PNON	(0)	-9.9 ± 0.6	-13.5 ± 0.5	-4.9 ± 1.3								
BIIOII	(M)	-9.91	-13.40	-5.27								
DCIM	(0)	$\textbf{-4.1}\pm0.6$	$\textbf{-}0.7\pm0.5$	-0.7 ± 1.6								
DSIN	(M)	-3.45	-1.98	-1.21								

Our preferred model for the 25 July 2012 M_w 6.4 Simeulue event lies just to the south of the seismic band of aftershocks studied by Tilmann et al. [2010]. We can see that although our model is able to closely fit the displacement recorded by BNON, we are unable to accurately model the horizontal displacement of BSIM. Furthermore, our model lies some distance to the south from the epicentres given by the teleseismic catalogs. This is in contrast to our other preferred models in the region, which usually lie in between the gCMT solution and the solutions for the other teleseismic catalogs.

S2. Non-Megathrust Thrust Events S2.1 The 10 April 2005 M_{μ} 6.7 Mentawai Backstop Event



						Lo	cati	ion / °)					De	pth / kr	n
Date		M_w	N	Model			gCMT			AN	SS	Model		el	аСМІ	
			Lon		Lat	Lo	n	Lat	,	Lon	Lat	Z 1	2	Z ₂	guni	ANSS
200504	10	6.7	99.48	6 -1	1.77	5 99.5	54	-1.68	8	99.607	-1.644	0.3	14.9		12.0	19.0
Rak	xe / °		Stri	ke / °		Dij	p / ª	•		Patch]	Dimensio	ons Slip / m		n / m	wa / %	
Model	W2	018	Model	W20)18	Model	W	2018	Ι	Len / km	Area	a / km ²		h / m	VE / 70	
91.1	9	1	323	32	3	56		56		28.12	468.9			1.	0043	99.36

		Displacement / mm											
		(E)	(N)	(V)									
MGAI	(0)	4.3 ± 1.0	-2.7 ± 0.7	-6.3 ± 2.4									
MSAI	(M)	-1.08	0.40	-2.75									
NCNC	(0)	92.7 ± 1.0	47.6 ± 0.9	-20.9 ± 3.4									
ngng	(M)	92.17	44.53	-24.10									
DEKI	(0)	-5.6 ± 0.7	-4.5 ± 0.8	0.8 ± 2.2									
ISKI	(M)	-3.63	-3.11	0.61									

S2.2 The 16 August 2009 M_w 6.7 Mentawai Backstop Event



					Lo	cation	/ •				De	epth / ki	n
Date		M _w	N	Model		gCMT		AN	SS	Model		GCM	
			Lon	Lat	t Lo	n I	.at	Lon	Lat	Z 1	Z ₂	gewi	ANSS
200908	16 6	5.7	99.40	8 -1.53	39 99.4	45 -1	.56	99.490	-1.479	0.8	15.5	12.0	20.0
Ral	xe / °		Stril	ke / °	Di	p / °		Patch 1	Dimensio	ons		in / m	na / 9/-
Model	W201	18]	Model	W2018	Model	W201	8 1	Len / km	Area	$/ \text{km}^2$ Sup		ир / ш	Ve / /0
98.0	82.4	ļ	339.1	339.1	61.9	61.9		28.12	46	8.9	1	.0043	99.50

		Disp	Displacement / mm										
		(E)	(N)	(V)									
MGAT	(0)	16.7 ± 0.4	$\textbf{-5.6}\pm0.4$	0.1 ± 1.3									
WISAI	(M)	15.82	-2.50	-6.67									
NCNC	(0)	42.1 ± 0.5	48.1 ± 0.4	-7.6 ± 1.7									
NGNG	(M)	41.55	46.13	-10.17									
DEVI	(0)	-3.0 ± 0.4	-1.5 ± 0.4	7.7 ± 1.2									
TLLU	(M)	4.67	-2.27	0.66									
	(0)	36.5 ± 0.4	28.4 ± 0.4	-6.6 ± 1.2									
	(M)	36.55	28.23	-3.05									

S3. Strike-Slip Events S3.1 The 08 April 2005 *M_w* 6.1 Batu Event



				Location / °									Depth / km				
Date		M_w]	Model			gCMT			ANSS		Model		aCM1			
			Lon	1	La	nt I	on	La	at	Lon	Lat	Z 1	Z ₂	gem	ANSS		
200504	08 6	6.1	97.91	7.913 -0.198		98 9'	97.71 -0.4		46	97.731	-0.215	0.0	7.6	12.0	20.9		
Rake / °			Strike / °		Dip / °			Patch Dimension			ns SI		in / m	wa / %			
Model	gCM	T	Model	gC	MT	Mode	l gCMT Len / km Are		Area /	$/ \text{ km}^2$		ıp / m	VE / 70				
-24.2	35		75	7	75	78	7	'8		16.37	127	27.9		.4633	99.98%		

		Disp	lacement / n	nm
		(E)	(N)	(V)
DCML	(0)	-15.5 ± 1.4	-11.6 ± 1.4	0.3 ± 3.6
rswik	(M)	-15.32	-11.35	-1.09

Though the model for the other fault plane is able to marginally fit the data better, the rake of the final model for the second fault plane is very close to 90°, which fits a thrust mechanism rather than a strike-slip mechanism like the current fault plane, and therefore we take this particular fault plane to be the best-fit model.

S3.2 The 16 May 2006 M_w 6.8 Sunda Trench Event



				Loc	ation / °	Depth / km					
Date	M _w	N	Aodel	g	СМТ	AN	SS	Mo	del	GCMT	ANSS
			l La	t Loi	1 Lat	Lon Lat		Z 1	Z ₂		ANSS
200605	16 6.8	97.01	1 0.01	6 96.98 0.0		97.050	0.093	20.0	33.2	13.5	12.0
Rake / °		Stri	Strike / °		Dip / °		Patch Dime			Slip / m	na / 9/
Model	gCMT	Model	gCMT	Model	gCMT	Len / kr	n A	rea / kr	n ²	Sub / m	VE / 70
51.9	329	358	358	82	82	45.92	45.92			1.0886	97.46

		Displacement / mm									
		(E)	(N)	(V)							
DITI	(0)	2.2 ± 0.4	3.4 ± 0.4	3.1 ± 1.3							
DIII	(M)	2.84	3.65	-0.20							
ртні	(0)	9.1 ± 0.4	6.7 ± 0.3	-1.7 ± 1.0							
DINL	(M)	7.92	7.15	1.23							
DSMK	(0)	1.3 ± 0.3	2.2 ± 0.3	0.8 ± 0.9							
F SIVIK	(M)	1.14	1.88	1.23							



S3.3 The 06 March 2007 M_w 6.4 and 6.3 Sumatran Fault Earthquake Doublet

This earthquake was modelled as a single event of magnitude M_w 6.56, in order to simulate an equivalent amount of energy released by the doublet.

		M _w		Location / °										Depth / km				
Date	e		1	Model			gCMT				ANSS		Μ	odel	aCM			
			Lor	Lon		Lat		Lon Lat		at	Lon	Lat	z ₁	Z ₂	gum			
20070306		6.4	100.5	538 06		0.628		100.53		65	100.498	-0.493	0	11.0	20.9	19.0		
		6.3	100.558		-0.028		10	0.47 -0.5		51	100.530	-0.488		11.0	21.9	11.0		
Rake / °			Stril	Strike / °			Dip / °			Patch Dimensions			Slip /		na / 0/			
Model	gCN	MT	Model	gC	MT	Mo	del	gCM	IT	Le	en / km Area / k		km ² SII		h \ m	VE / /0		
140.7	18	3	150	1	50	0.4		84		22.24		257 4		0	81 22	08.05		
	17	'9	130	14	49	0	4	80		-	32.24 357.4		0.	0122	70.75			

		Displacement / mm										
		(E)	(N)	(V)								
DELI	(0)	4.4 ± 0.3	11.5 ± 0.3	1.6 ± 0.8								
PSKI	(M)	3.92	11.61	3.02								
TIVI	(0)	$\textbf{-9.3}\pm0.4$	3.0 ± 0.4	2.8 ± 1.2								
IIKU	(M)	-9.06	2.95	-2.26								