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Article

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Sensitivity of South American tropical forests to an extreme climate anomaly

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Supplementary Information

Table S1 | Mixed effects model of death risk factors

death ~ wood density + diameter size class + pre-El Niño or El Niño +
diameter size class * pre-El Niño or El Niño +
wood density * pre-El Niño or El Niño +
census interval length + (1|PlotViewID/TreeID), family=binomial)

Random effects	**Variance**	**Std. Dev**
TreeID:PlotViewID	0.08	0.28
PlotViewID	0.79	0.89

Number of observations: 428045, groups TreeID:PlotViewID, 89738; PlotViewID, 123

Fixed effects	**Estimate**	**Std. Error**	**z value**	**Pr(>|z|)**
(Intercept)	-1.34495	0.08137	-16.529	< 2e-16 ***
Wood density	-0.23410	0.00940	-24.905	< 2e-16 ***
Size class 2 (200-399 mm diameter)	-0.13276	0.01913	-6.939	3.95e-12 ***
Size class 3 (400+ mm diameter)	-0.17699	0.03376	-5.242	1.59e-07 ***
Pre-El Nino	-6.43675	0.06500	-99.026	< 2e-16 ***
Census interval length	1.21433	0.01507	80.552	< 2e-16 ***
Interaction: size class 2 and pre-El Niño	-0.36971	0.10330	-3.579	0.000345 ***
Interaction: size class 3 and pre-El Niño	-0.43376	0.18447	-2.351	0.018706 *
Interaction: wood density and pre-El Niño	0.30858	0.04810	6.415	1.41e-10 ***

Correlation of fixed effects								
	(Intr)	Wood density	Size class 2	Size class 3	pre-El Niño or El Niño	Census interval length	Interaction: size class 2 and pre-El Niño	Interaction: size class 3 and pre-El Niño
Wood density	0.032							
Size class 2	-0.063	0.067						

Size class 3	-0.039	0.007	0.174					
Pre-El Niño or El Niño	0.009	0.019	0.091	0.055				
Census interval length	-0.046	-0.006	-0.013	-0.402				
Interaction: size class 2 and pre-El Niño	0.010	-0.012	-0.181	-0.029	-0.457	-0.026		
Interaction: size class 3 and pre-El Niño	0.006	0.000	-0.029	-0.176	-0.259	-0.002	0.176	
Interaction: wood density and pre-El Niño	-0.011	-0.179	-0.012	0.000	-0.022	0.047	0.022	0.015

Table S2 | Linear model equations from Figure 4

net carbon =	Δ MCWD + Δ temperature + pre-El Niño MCWD + pre-El Niño temperature + Δ MCWD * pre-El Niño MCWD + Δ temperature * pre-El Niño temperature + Δ temperature * Δ MCWD
gains =	Δ MCWD + Δ temperature + pre-El Niño MCWD + pre-El Niño temperature + Δ MCWD * pre-El Niño MCWD + Δ temperature * pre-El Niño temperature + Δ temperature * Δ MCWD
losses =	Δ MCWD + Δ temperature + pre-El Niño MCWD + pre-El Niño temperature + Δ MCWD * pre-El Niño MCWD + Δ temperature * pre-El Niño temperature + Δ temperature * Δ MCWD

Table S3 | Plot attributes

						Effort			Pre-El Niño interval		El Niño interval	
Country	**Cluster**	**Plot Code**	**Lat.**	**Long.**	**Alt. (masl)**	**Area (ha)**	**n censuses**	**Interval (y)**	**Start**	**End**	**Start**	**End**
BRA	ALF	ALF-01	-9.6	-55.9	269	1	5	15.1	2002.4	2013.4	2013.4	2017.5
		ALF-02	-9.6	-55.9	277	1	4	9.1	2008.4	2013.4	2013.4	2017.5
PER	ALM	ALM-01	-11.8	-71.5	400	2	6	22.7	1994.7	2012.7	2012.7	2017.4
	ALP	ALP-01a	-3.9	-73.4	114	0.4	11	26.0	1990.9	2015.1	2015.1	2016.9
		ALP-01b	-3.9	-73.4	114	0.48	11	26.0	1990.9	2015.1	2015.1	2016.9
		ALP-02a	-4	-73.4	125	0.48	9	26.0	1990.9	2015.1	2015.1	2016.9
		ALP-02b	-4	-73.4	125	0.44	9	26.0	1990.9	2015.1	2015.1	2016.9
		ALP-30	-4	-73.4	130	1	8	15.6	2001.3	2015.1	2015.1	2016.9
		ALP-40	-3.9	-73.4	146	1	5	10	2006.9	2015.1	2015.1	2016.9
		ALP-50	-4	-73.4	145	1	3	3.6	2013.3	2015.1	2015.1	2016.9
BOL	ALV	ALV-02	-16.1	-61.9	410	1	3	6.4	2010.2	2013.5	2013.5	2016.6
COL	AMA	AMA-03	5.6	-77.5	71	4	3	4.9	2012.2	2014.1	2014.1	2017.1
VEN	BAC	BAC-a	7.5	-71	143	0.5	10	25.0	1991.3	2012.1	2012.1	2016.3
		BAC-b	7.5	-71	141	0.5	12	25.0	1991.9	2012.1	2012.1	2016.3
		BAC-c	7.5	-71	141	0.5	9	15.1	2001.2	2012.1	2012.1	2016.3
PER	BAR	BAR-01	-11.9	-71.4	345	0.813	6	21.4	1995.9	2012.7	2012.7	2017.3
COL	BES	BES-01	10.5	-73.3	550	0.8	4	10.3	2006.5	2015.7	2015.7	2016.8
VEN	CAI	CAI	8.7	-70.1	171	1	20	32.1	1984.2	2012.1	2012.1	2016.3
PER	CUZ	CUZ-01	-12.5	-69.1	190	1	9	28.4	1989.4	2014.7	2014.7	2017.8
		CUZ-02	-12.5	-69.1	190	1	9	28.4	1989.4	2014.7	2014.7	2017.8
		CUZ-03	-12.5	-69.1	190	1	9	28.4	1989.4	2014.7	2014.7	2017.8
		CUZ-04	-12.5	-69.1	190	1	9	28.4	1989.4	2014.7	2014.7	2017.8
BRA	DEC	DEC-03	-14.5	-44.2	630	0.4	4	13.2	2004.6	2015.1	2015.1	2017.8
		DEC-06	-14.5	-44.2	530	0.56	4	13.2	2004.6	2015.1	2015.1	2017.8
	DOI	DOI-01	-10.6	-68.3	203	1	10	27.1	1991.3	2016.5	2016.5	2018.4
		DOI-02	-10.5	-68.3	203	1	9	19	1999.4	2016.5	2016.5	2018.4
	DUK	DUK-44	-2.9	-59.9	105	1	6	15.7	2002.6	2014.6	2014.6	2018.3
		DUK-63	-3.0	-59.9	60	1	6	15.7	2001.7	2014.6	2014.6	2017.4
COL	ECE	ECE-01	10.7	-75.3	50	1	5	15.1	2001.7	2015.8	2015.8	2016.8
		ECE-02	10.7	-75.3	30	1	5	8.8	2008.0	2015.8	2015.8	2016.8
BRA	FEC	FEC-01	-10.1	-67.6	204	1	6	17.5	2000.9	2016.3	2016.3	2018.4
	FLO	FLO-01	-12.8	-51.9	377	1	5	10	2008.4	2015.3	2015.3	2018.4

		FLO-02	-12.8	-51.9	366	1	4	7.6	2010.8	2015.3	2015.3	2018.4
BOL	HCC	HCC-21	-14.5	-60.7	729	1	7	20.1	1996.5	2013.6	2013.6	2016.6
		HCC-22	-14.5	-60.7	747	1	7	20.1	1996.5	2013.6	2013.6	2016.6
		HCC-23	-14.6	-60.7	809	1	5	17.1	1999.5	2013.6	2013.6	2016.6
		HCC-24	-14.6	-60.7	735	1	5	17.1	1999.5	2013.6	2013.6	2016.6
BRA	ING	ING-01	-21.4	-44.9	883	1	5	18.2	1999.5	2015.0	2015.0	2017.7
	IPM	IPM-20	-3.7	-60.3	50	1	3	6.1	2010.5	2015.5	2015.5	2016.6
		IPM-22	-3.7	-60.3	44	1	3	6.1	2010.5	2015.5	2015.5	2016.6
		IPM-26	-5	-61.6	61	1	3	5.2	2011.4	2015.6	2015.6	2016.6
		IPM-28	-3.7	-60.3	44	1	3	6.1	2010.5	2015.5	2015.5	2016.6
		IPM-55	-4.6	-61.3	51	1	3	6	2010.6	2015.6	2015.6	2016.6
		IPM-62	-5	-61.6	57	1	3	5.1	2011.5	2015.6	2015.6	2016.6
		IPM-63	-5	-61.5	58	1	3	5.1	2011.5	2015.5	2015.5	2016.6
		IPM-79	-5	-62	62	1	3	4.9	2011.9	2015.7	2015.7	2016.8
		IPM-80	-5	-62	63	1	3	4.9	2011.9	2015.7	2015.7	2016.8
		IPM-86	-5.6	-62.2	69	1	3	5.9	2010.8	2015.6	2015.6	2016.7
		IPM-87	-5.6	-62.2	65	1	3	6	2010.7	2015.6	2015.6	2016.7
		IPM-88	-5.6	-62.2	70	1	3	6	2010.7	2015.6	2015.6	2016.7
BOL	JBS	JBS-01	-17.8	-63.1	440	1	3	4.1	2014.6	2016.7	2016.7	2018.7
		JBS-02	-17.8	-63.1	435	1	3	4.1	2014.6	2016.7	2016.7	2018.7
PER	JEN	JEN-11	-4.9	-73.6	151	1	9	12	2005.2	2014.9	2014.9	2017.2
		JEN-12	-4.9	-73.6	122	1	7	12	2005.2	2014.9	2014.9	2017.2
COL	KAL	KAL-01	11.2	-74.1	206	1	4	9.8	2007.0	2015.7	2015.7	2016.8
BOL	KEN	KEN-01	-16	-62.7	390	1	10	8.1	2008.9	2015.0	2015.0	2017.0
		KEN-02	-16	-62.7		1	10	8	2009.0	2015.0	2015.0	2017.0
PER	LAS	LAS-02	-12.6	-70.1	235	1	4	13.4	2004.4	2014.9	2014.9	2017.8
BOL	LFB	LFB-01	-14.6	-60.8	59	1	8	23.0	1993.6	2013.5	2013.5	2016.6
		LFB-02	-14.6	-60.8	60	1	9	23.0	1993.6	2013.5	2013.5	2016.6
BRA	MHO	MHO-01	-1.2	-46.7	51	1.5	10	17.8	1999.5	2014.5	2014.5	2017.3
	MIN	MIN-01	-8.6	-72.9	226	1	5	21.8	1996.5	2013.5	2013.5	2018.3
PER	MNU	MNU-03	-11.9	-71.4	312	2	6	25.6	1991.7	2012.6	2012.6	2017.3
		MNU-04	-11.9	-71.4	358	1	7	25.6	1991.7	2012.6	2012.6	2017.4
		MNU-08	-12	-71.2	295	2	6	25.5	1991.8	2012.7	2012.7	2017.3
BRA	MTH	MTH-01	-8.9	-72.8	697	1	6	22.0	1996.4	2013.5	2013.5	2018.4
	NPI	NPI-07	-23.4	-45.1	187	1	4	10.2	2006.5	2012.7	2012.7	2016.7

		NPI-08	-23.4	-45.1	209	1	4	10.1	2006.6	2012.8	2012.8	2016.7
		NPI-09	-23.4	-45.1	350	1	4	9.6	2007.2	2012.8	2012.8	2016.8
		NPI-10	-23.4	-45.1	372	1	4	9.8	2006.9	2012.8	2012.8	2016.7
	NXV	NXV-02	-14.7	-52.4	311	0.5	9	15.1	2002.4	2015.2	2015.2	2017.5
		NXV-06	-14.7	-52.4	346	0.47	6	19.3	1998.8	2015.2	2015.2	2018.1
		NXV-07	-14.7	-52.4	321	0.47	6	18.9	1999.3	2015.2	2015.2	2018.2
		NXV-08	-14.7	-52.4	307	0.47	6	19	1999.2	2015.2	2015.2	2018.2
GUF	PAB	PAB-01	5.3	-52.9	40	6.25	27	32	1984.6	2014.6	2014.6	2016.6
PER	PAK	PAK-01	-11.9	-52.9	345	1	5	29.8	1987.6	2012.7	2012.7	2017.4
		PAK-02	-12	-71.3	347	1	6	5.9	2011.5	2012.7	2012.7	2017.4
GUF	PAR	PAR-a	5.3	-52.9	25	1.47	7		2004.4	2015.2	2015.2	2017.2
		PAR-b	5.3	-52.9	20	0.98	7		2004.5	2015.2	2015.2	2017.2
		PAR-c	5.3	-52.9	20	1.98	5		2008.2	2015.2	2015.2	2017.2
		PAR-d	5.3	-52.9	20	0.98	7		2004.4	2015.2	2015.2	2017.2
	PNY	PNY-03	-10.3	-75.3	859	1	5	14	2004.8	2015.6	2015.6	2018.8
		PNY-04	-10.3	-75.3	414	1	5	11.2	2007.5	2015.5	2015.5	2018.7
		PNY-05	-10.4	-75.2	448	1	5	10.5	2008.2	2015.5	2015.5	2018.7
		PNY-06	-10.4	-75.3	462	1	5	10.5	2008.2	2015.6	2015.6	2018.7
		PNY-07	-10.3	-75.3	414	1	5	10.5	2008.2	2015.5	2015.5	2018.7
BRA	POR	POR-01	-10.8	-68.8	268	1	9	27.0	1991.4	2013.5	2013.5	2018.4
		POR-02	-10.8	-68.8	268	1	8	26.9	1991.4	2013.5	2013.5	2018.3
PER	RCS	RCS-01	-9.5	-74.8	832	1	3	6	2010.5	2014.3	2014.3	2016.5
		RCS-05	-9.6	-74.9	251	1	3	5.2	2011.4	2014.4	2014.4	2016.6
BRA	RFH	RFH-01	-9.8	-67.7	176	1	6	14.1	2004.3	2016.0	2016.0	2018.4
	RST	RST-01	-9.8	-67.7	279	1	6	22.9	1995.4	2013.4	2013.4	2018.3
	SAA	SAA-01	-9.8	-50.4	177	1	4	7.2	2011.4	2015.5	2015.5	2018.6
		SAA-02	-9.6	-50.5	207	1	3	5	2013.6	2015.5	2015.5	2018.6
BOL	SCT	SCT-01	-17.1	-64.8	248	1	7	14.8	2001.8	2013.5	2013.5	2016.6
		SCT-06	-9.7	-64.8	248	1	7	14	2002.6	2013.5	2013.5	2016.6
COL	SGU	SGU-01	9.7	-75.7	20	1	4	6.3	2010.5	2015.8	2015.8	2016.8
BRA	STO	STO-03	-3.3	-55	132	0.25	3	6.5	2010.5	2014.8	2014.8	2017.0
		STO-05	-3.3	-55	170	0.25	3	6.5	2010.5	2014.7	2014.7	2017.0
		STO-06	-3.3	-55	178	0.25	3	6.3	2010.5	2014.7	2014.7	2016.8
		STO-07	-3.3	-55	163	0.25	3	6.3	2010.5	2014.7	2014.7	2016.8
	SUB	SUB-02	-21.2	-45	920	5.04	8	30.0	1987.5	2015.5	2015.5	2017.5

		SUB-03	-21.2	-45	930	1.12	5	30.0	1987.5	2015.5	2015.5	2017.5
PER	SUC	SUC-01	-3.3	-72.9	107	1	9	24.5	1992.1	2015.5	2015.5	2016.6
		SUC-02	-3.2	-72.9	98	1	9	24.5	1992.1	2015.5	2015.5	2016.6
		SUC-04	-3.3	-72.9	107	1	7	15.5	2001.2	2015.5	2015.5	2016.7
		SUC-05	-3.3	-72.9	118	1	7	15.6	2001.1	2015.5	2015.5	2016.7
	TAM	TAM-01	-12.8	-69.3	205	1	11	30.3	1987.4	2014.7	2014.7	2017.7
		TAM-02	-12.8	-69.3	210	1	12	30.2	1987.5	2014.7	2014.7	2017.7
		TAM-04	-12.8	-69.3	210	0.42	9	32.1	1985.6	2014.7	2014.7	2017.7
		TAM-05	-12.8	-69.3	220	1	12	31.3	1986.4	2014.7	2014.7	2017.7
		TAM-06	-12.8	-69.3	200	0.96	11	26.2	1991.5	2014.7	2014.7	2017.7
		TAM-07	-12.8	-69.3	225	1	10	32.2	1985.6	2014.7	2014.7	2017.8
		TAM-08	-12.8	-69.3	220	1	7	16.3	2001.5	2014.7	2014.7	2017.8
		TAM-09	-12.8	-69.3	199	1	6	7	2010.7	2014.7	2014.7	2017.7
BRA	TAN	TAN-02	-13.1	-52.4	382	1	5	8.4	2009.9	2015.2	2015.2	2018.3
		TAN-03	-12.8	-52.4	356	1	5	8.4	2009.9	2015.2	2015.2	2018.3
		TAN-04	-12.9	-52.4	389	1	5	9.9	2008.4	2015.2	2015.2	2018.3
BOL	TUC	TUC-01	-18.5	-60.8	310	1	5	13.1	2003.5	2013.6	2013.6	2016.6
BRA	VCR	VCR-01	-14.8	-52.2	303	0.64	9	22.3	1996.3	2015.5	2015.5	2018.6
		VCR-02	-14.8	-52.2	297	0.6	6	15	2003.6	2015.5	2015.5	2018.6
PER	YAN	YAN-01	-3.4	-72.8	132	1	11	27.2	1989.4	2015.5	2015.5	2016.6
		YAN-02	-3.4	-72.8	109	1	6	15.5	2001.1	2015.5	2015.5	2016.6

ALP-01 and ALP-02 are each split into two based on soil type. BAC plots are combined to half a hectare based on approximately uniform soils as in Brienen et al. 2015; BAC-a is BAC-01 and BAC-03, BAC-b is BAC-02 and BAC-04, and BAC-c is BAC-05 and BAC-06. CAI plots CAI-01, CAI-02, CAI-03, CAI-04 are contiguous and combined to 1 hectare. PAR plots are combined based on approximately uniform soils; PAR-a is PAR-20, PAR-28 and PAR-29, PAR-b is PAR-21 and PAR-26, PAR-c is PAR-22, PAR-24 and PAR-25 and PAR-d is PAR-23 and PAR-27.

Table S4 | Plot data

	net carbon				gains				losses			
	Mg C ha-1 yr-1			%	Mg C ha-1 yr-1			%	Mg C ha-1 yr-1			%
Plot Code	Pre-El Niño interval	El Niño interval	Δ		Pre-El Niño interval	El Niño interval	Δ		Pre-El Niño interval	El Niño interval	Δ	
ALF-01	0.63	-2.32	-2.95	-3.55	1.6	1.75	0.15	0.18	0.94	4	3.06	3.67
ALF-02	-2.16	-0.93	1.22	1.39	1.83	1.88	0.05	0.06	4.07	2.73	-1.34	-1.51
ALM-01	0.36	1.42	1.06	0.83	2.8	3.62	0.83	0.65	2.37	2.15	-0.22	-0.18
ALP-01a	1.07	2.62	1.55	1.28	2.94	2.95	0.01	0.01	1.81	0.32	-1.49	-1.23
ALP-01b	0.32	2.61	2.28	1.82	2.57	3.05	0.48	0.38	2.18	0.43	-1.75	-1.4
ALP-02a	-0.3	1.92	2.23	1.88	3.5	2.85	-0.65	-0.55	3.68	0.91	-2.77	-2.33
ALP-02b	0.67	2.12	1.45	1.29	2.83	3.07	0.24	0.22	2.1	0.81	-1.29	-1.14
ALP-30	-0.33	1.52	1.85	1.8	2.4	2.91	0.5	0.49	2.67	1.34	-1.33	-1.3
ALP-40	2.39	1.45	-0.93	-0.82	3.47	2.8	-0.67	-0.59	1.05	1.31	0.26	0.23
ALP-50	1.61	1.41	-0.2	-0.25	2.98	2.46	-0.52	-0.65	1.34	1.02	-0.31	-0.39
ALV-02	-0.17	-1.13	-0.96	-0.99	1.7	0.82	-0.88	-0.91	1.83	1.92	0.09	0.09
AMA-03	0.6	0.15	-0.45	-0.47	2.85	2.23	-0.62	-0.64	2.18	2.01	-0.17	-0.17
BAC-a	1.27	0.17	-1.11	-0.93	2.4	1.85	-0.54	-0.46	1.08	1.6	0.52	0.44
BAC-b	1.01	-1.16	-2.17	-2.47	1.81	1.87	0.06	0.06	0.77	2.92	2.16	2.45
BAC-c	0.71	1.34	0.63	0.82	2.99	2.11	-0.87	-1.14	2.21	0.69	-1.53	-1.99
BAR-01	0.99	2.03	1.04	0.65	3.61	3.59	-0.02	-0.02	2.53	1.5	-1.03	-0.64
BES-01	0.84	-4.07	-4.92	-7.3	1.45	1.79	0.34	0.51	0.58	5.83	5.24	7.78
CAI	0.03	0.75	0.71	0.75	2.51	1.67	-0.84	-0.88	2.47	0.89	-1.58	-1.65
CUZ-01	0.48	-2.52	-3	-2.42	3	4.27	1.27	1.03	2.45	6.7	4.25	3.44
CUZ-02	0.54	0.05	-0.49	-0.41	2.7	2.12	-0.57	-0.48	2.11	2.03	-0.08	-0.07
CUZ-03	1.02	-0.06	-1.09	-0.95	2.68	2.77	0.1	0.08	1.6	2.77	1.17	1.02
CUZ-04	0.27	-0.25	-0.51	-0.39	3.37	3.2	-0.17	-0.13	3.02	3.36	0.34	0.26
DEC-03	0.73	-3.18	-3.91	-10.55	1.14	-0.4	-1.54	-4.16	0.38	2.73	2.35	6.33
DEC-06	-0.34	-0.74	-0.4	-1.28	0.67	-0.34	-1.01	-3.21	0.99	0.39	-0.59	-1.89
DOI-01	1.11	-2.15	-3.26	-2.73	2.56	2.37	-0.19	-0.16	1.41	4.47	3.07	2.57
DOI-02	1.11	-0.84	-1.95	-2.55	3.17	2.74	-0.42	-0.55	1.98	3.47	1.49	1.95
DUK-44	0.49	1.04	0.55	0.51	1.69	1.11	-0.58	-0.54	1.18	0.09	-1.08	-1.01
DUK-63	-0.44	2.84	3.28	3.93	1.35	3.46	2.11	2.52	1.76	0.66	-1.1	-1.32
ECE-01	0.86	1.13	0.27	0.54	1.5	2.11	0.62	1.23	0.61	0.97	0.36	0.71
ECE-02	0.83	-8.31	-9.14	-9.5	2.35	3	0.65	0.68	1.47	11.22	9.75	10.13
FEC-01	-0.88	0.57	1.45	1.25	3.54	3.59	0.05	0.05	4.2	2.96	-1.25	-1.07

FLO-01	0.21	-0.21	-0.42	-0.61	1.79	1.77	-0.03	-0.04	1.54	1.87	0.34	0.48
FLO-02	2.58	-4.34	-6.91	-10.93	3.03	1.83	-1.2	-1.9	0.42	5.88	5.46	8.63
HCC-21	0.09	1.45	1.36	1.53	2.38	2.62	0.24	0.27	2.2	1.12	-1.08	-1.22
HCC-22	-0.45	1.34	1.78	1.89	1.94	2.31	0.37	0.4	2.33	0.95	-1.38	-1.46
HCC-23	-0.14	0.39	0.53	0.61	2.14	2.75	0.61	0.7	2.13	2.3	0.17	0.19
HCC-24	0.11	0.95	0.84	0.89	1.92	2.44	0.52	0.55	1.71	1.45	-0.26	-0.28
ING-01	1.67	-0.55	-2.22	-3	2.75	1.82	-0.92	-1.25	1	2.3	1.29	1.75
IPM-20	0.55	-3.73	-4.27	-5.92	1.62	0.74	-0.88	-1.22	1.05	4.46	3.41	4.72
IPM-22	1.36	-2.4	-3.76	-5.03	1.93	0.67	-1.26	-1.69	0.57	3.05	2.49	3.33
IPM-26	0.77	0.27	-0.5	-0.56	1.25	0.93	-0.32	-0.36	0.48	0.66	0.18	0.2
IPM-28	0.07	0.43	0.35	0.35	1.57	1.06	-0.51	-0.51	1.5	0.61	-0.89	-0.88
IPM-55	0.28	-0.06	-0.34	-0.43	1.25	0.75	-0.5	-0.63	0.95	0.84	-0.12	-0.15
IPM-62	1.14	-1.45	-2.59	-2.85	1.91	1.27	-0.65	-0.71	0.75	2.72	1.97	2.17
IPM-63	1.22	1.23	0.01	0.01	1.93	1.4	-0.53	-0.58	0.71	0.17	-0.53	-0.58
IPM-79	-0.11	0.52	0.63	0.81	1.94	0.67	-1.27	-1.64	2.02	0.15	-1.88	-2.42
IPM-80	-0.09	1	1.1	1.31	1.81	1.18	-0.62	-0.74	1.89	0.2	-1.7	-2.03
IPM-86	0.07	1.29	1.22	1.07	2.05	2.15	0.1	0.09	1.92	0.85	-1.07	-0.94
IPM-87	0.9	2.05	1.15	2.03	1.47	2.74	1.27	2.25	0.56	0.7	0.15	0.26
IPM-88	0.98	-0.23	-1.21	-1.47	1.85	2.63	0.78	0.94	0.86	2.85	1.99	2.41
JBS-01	0.28	-0.09	-0.37	-0.37	0.75	1.4	0.66	0.67	0.46	1.48	1.02	1.03
JBS-02	1.45	0.82	-0.63	-0.79	1.94	1.58	-0.36	-0.46	0.48	0.75	0.26	0.33
JEN-11	-0.66	2.24	2.89	2.18	2.79	2.97	0.17	0.13	3.41	0.71	-2.7	-2.03
JEN-12	-0.15	1.28	1.43	1.28	2.08	2.02	-0.07	-0.06	2.19	0.72	-1.47	-1.32
KAL-01	0.29	-2.41	-2.7	-3.89	1.21	1.09	-0.12	-0.18	0.89	3.47	2.58	3.72
KEN-01	1.28	1.66	0.38	0.56	2.49	2.39	-0.1	-0.15	1.19	0.72	-0.48	-0.71
KEN-02	0.92	2.27	1.36	2.46	2.34	2.72	0.38	0.69	1.39	0.43	-0.97	-1.75
LAS-02	0.79	0.5	-0.29	-0.23	2.66	3.14	0.49	0.38	1.8	2.6	0.79	0.63
LFB-01	0.69	1.45	0.76	0.79	2	2.44	0.43	0.45	1.28	0.96	-0.32	-0.33
LFB-02	0.64	0.78	0.13	0.12	2.17	2.43	0.26	0.24	1.49	1.61	0.12	0.11
MHO-01	1.23	0.1	-1.13	-2.14	2.88	2.53	-0.35	-0.66	1.54	2.25	0.71	1.36
MIN-01	0.66	1.53	0.87	0.83	2.96	3.36	0.39	0.37	2.13	1.76	-0.37	-0.36
MNU-03	0.43	0.45	0.02	0.01	3.61	4.17	0.57	0.5	3.04	3.6	0.55	0.49
MNU-04	0.96	2.38	1.42	1.49	2.74	3.53	0.78	0.82	1.71	1.09	-0.61	-0.64
MNU-08	0.53	2.09	1.56	0.89	2.89	3.89	1	0.57	2.29	1.76	-0.53	-0.3
MTH-01	0.56	-0.36	-0.91	-1.06	2.7	2.76	0.06	0.07	2.04	3	0.96	1.12

NPI-07	-0.09	-2.3	-2.21	-1.43	2.14	3.48	1.34	0.87	2.16	5.68	3.52	2.28
NPI-08	0.67	0.95	0.28	0.2	2.93	4.5	1.57	1.09	2.19	3.41	1.22	0.85
NPI-09	1.47	0.45	-1.02	-0.6	2.47	2.21	-0.27	-0.16	0.99	1.73	0.74	0.44
NPI-10	1.16	1.76	0.6	0.33	2.34	2.66	0.32	0.18	1.16	0.88	-0.28	-0.15
NXV-02	2.07	-2.4	-4.47	-10.96	2.79	1.93	-0.86	-2.1	0.64	4.16	3.53	8.65
NXV-06	0.89	-0.79	-1.68	-2.41	1.67	1.44	-0.22	-0.32	0.74	2.17	1.44	2.07
NXV-07	0.68	0.27	-0.41	-0.49	1.65	1.58	-0.07	-0.08	0.92	1.31	0.39	0.47
NXV-08	1.24	0.41	-0.83	-1.46	2.48	1.85	-0.63	-1.11	1.15	1.37	0.21	0.37
PAB-01	0.18	-1.55	-1.73	-1.02	1.84	1.77	-0.07	-0.04	1.66	5.73	4.07	2.42
PAK-01	0.23	0.63	0.4	0.4	2.84	3.52	0.67	0.67	2.19	2.77	0.58	0.58
PAK-02	0.61	1.48	0.87	0.6	2.47	2.92	0.45	0.31	1.84	1.39	-0.44	-0.31
PAR-a	-1.04	0.23	1.27	0.74	2.1	2.15	0.06	0.03	3.12	1.91	-1.22	-0.71
PAR-b	-1.36	-3.61	-2.25	-1.5	1.88	1.86	-0.02	-0.01	3.22	5.44	2.22	1.47
PAR-c	0.74	-0.29	-1.03	-0.73	2.58	2.17	-0.41	-0.29	1.82	2.44	0.62	0.44
PAR-d	-0.27	0.66	0.93	0.7	1.88	1.99	0.11	0.08	2.13	1.32	-0.81	-0.61
PNY-03	-0.9	-0.19	0.71	0.71	2.45	2.59	0.14	0.14	3.26	2.71	-0.55	-0.55
PNY-04	-0.76	1.02	1.79	1.71	3.11	2.8	-0.31	-0.3	3.77	1.71	-2.06	-1.97
PNY-05	0.52	-0.27	-0.79	-0.56	2.75	2.63	-0.12	-0.08	2.18	2.83	0.64	0.46
PNY-06	-0.28	-5.41	-5.13	-4.51	2.62	2.49	-0.13	-0.12	2.83	7.72	4.89	4.3
PNY-07	1.08	1.26	0.18	0.21	3.09	2.72	-0.37	-0.43	1.97	1.42	-0.55	-0.63
POR-01	1.17	0.43	-0.74	-0.48	3.06	3.16	0.1	0.06	1.83	2.75	0.91	0.58
POR-02	0.54	0.81	0.27	0.25	2.48	3.05	0.57	0.54	1.84	2.24	0.4	0.37
RCS-01	1.84	1.04	-0.8	-0.66	3.34	2.56	-0.79	-0.65	1.45	1.5	0.04	0.04
RCS-05	0.4	2.18	1.78	1.67	3.72	3.78	0.05	0.05	3.23	1.56	-1.67	-1.57
RFH-01	-1.65	1.4	3.05	2.24	2.96	2.98	0.02	0.02	4.5	1.54	-2.95	-2.17
RST-01	0.96	0.77	-0.18	-0.16	3.06	2.7	-0.35	-0.31	2.02	1.87	-0.15	-0.13
SAA-01	0.95	-0.34	-1.29	-1.74	2.05	2	-0.04	-0.05	1.08	2.28	1.21	1.63
SAA-02	0.75	-0.38	-1.13	-1.74	2.03	1.85	-0.18	-0.28	1.32	2.11	0.79	1.22
SCT-01	0.53	2.11	1.58	1.59	2.87	2.82	-0.05	-0.05	2.29	0.67	-1.63	-1.64
SCT-06	0.18	2.2	2.01	2.12	3.28	3.3	0.02	0.02	3.03	1.06	-1.98	-2.08
SGU-01	0.13	-0.69	-0.83	-0.94	2.17	2.1	-0.07	-0.08	2	2.78	0.78	0.89
STO-03	-1.06	-9.41	-8.36	-4.4	2.05	1.36	-0.69	-0.37	3.07	10.71	7.64	4.02
STO-05	-1.93	0.62	2.55	2.41	3.77	3.75	-0.02	-0.02	5.33	3.02	-2.31	-2.18
STO-06	-0.77	2.29	3.06	1.87	2.97	2.86	-0.12	-0.07	3.64	0.55	-3.09	-1.89
STO-07	-1.4	-2.25	-0.85	-0.5	2.23	2.04	-0.19	-0.11	3.6	4.25	0.66	0.39

SUB-02	0.76	0.78	0.02	0.03	1.82	2.33	0.51	0.81	1.02	1.51	0.49	0.78
SUB-03	0.82	-2.35	-3.17	-3.78	2.14	0.97	-1.17	-1.39	1.26	2.85	1.59	1.9
SUC-01	0.35	1.34	0.99	0.74	3.44	4.13	0.7	0.53	2.99	2.77	-0.22	-0.17
SUC-02	0.05	-5.5	-5.55	-4.12	3.13	3.1	-0.03	-0.03	2.99	8.53	5.54	4.11
SUC-04	0.33	-3.12	-3.46	-2.41	3.18	3.2	0.02	0.01	2.78	6.28	3.5	2.44
SUC-05	1.27	2.7	1.43	1.02	3.24	3.71	0.47	0.33	1.92	1	-0.92	-0.65
TAM-01	0.59	1.28	0.69	0.62	2.59	3.16	0.57	0.51	1.95	1.85	-0.11	-0.1
TAM-02	-0.25	1.1	1.35	1.09	2.46	3.14	0.68	0.55	2.67	2	-0.67	-0.54
TAM-04	1.2	2.21	1.01	0.74	3.4	3.62	0.23	0.17	2.13	1.37	-0.76	-0.55
TAM-05	0.72	-1.38	-2.11	-1.73	2.85	3.18	0.33	0.27	2.06	4.48	2.41	1.99
TAM-06	1.87	1.99	0.12	0.09	3.06	4.26	1.19	0.86	1.17	2.23	1.05	0.76
TAM-07	-0.02	-0.17	-0.15	-0.12	3.04	4.55	1.5	1.23	2.95	4.58	1.62	1.33
TAM-08	0.29	-1.83	-2.13	-1.95	2.69	2.69	0.01	0.01	2.34	4.46	2.11	1.93
TAM-09	-3.13	-0.99	2.14	1.81	2.17	3.01	0.84	0.71	5.25	3.93	-1.32	-1.12
TAN-02	-0.09	-0.73	-0.64	-1	1.52	1.54	0.03	0.05	1.58	2.22	0.64	1.01
TAN-03	-1.35	0.11	1.46	1.98	1.6	1.88	0.28	0.38	2.89	1.71	-1.18	-1.61
TAN-04	-0.47	-3	-2.53	-3.87	1.61	1.36	-0.25	-0.38	2.03	4.23	2.2	3.36
TUC-01	0.56	-0.24	-0.81	-1.85	0.76	0.28	-0.48	-1.1	0.19	0.52	0.32	0.74
VCR-01	0.1	0.87	0.77	0.55	1.75	1.37	-0.39	-0.28	1.61	0.48	-1.13	-0.81
VCR-02	-0.87	0.15	1.02	1.34	1.28	1.48	0.2	0.26	2.09	1.3	-0.79	-1.04
YAN-01	-0.62	-0.69	-0.07	-0.05	3.65	5.08	1.43	1.07	4.12	5.69	1.58	1.18
YAN-02	1.16	1.81	0.65	0.44	3.55	3.48	-0.07	-0.05	2.32	1.65	-0.67	-0.46