

Benguela Niños and Benguela Niñas in forced ocean simulation from 1958 to 2015.

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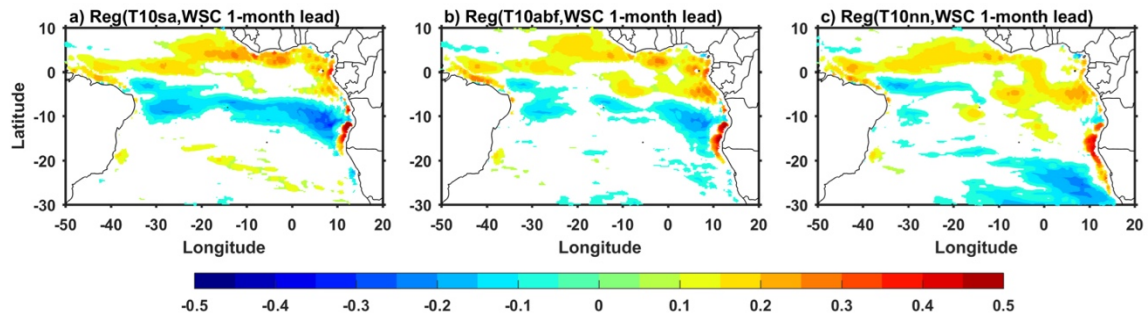


Figure S1. Regression coefficients between detrended normalized anomalies (1958-2015) of OGCM wind stress curl shifted forward by 1 month onto coastal (averaged within the 1°-width coastal band) OGCM T10 anomalies averaged in Southern Angola (T10sa, [10°S-15°S]), ABF domain (T10abf, [15°S -19°S]), and Northern Namibia (T10nn, [19°S-24°S]) respectively. Regression coefficients are statistically significant at 95%.

	Events	Southern Angola (SA)		Angola Benguela Front (ABF)		Northern Namibia (NN)		References
		Peak month	Duration (month)	Peak month	Duration (month)	Peak month	Duration (month)	
Extreme coastal warm events (13)	1958/12 – 1959/07	Jan	2	Jan	5	Mar	7	(21)
	1960/09 – 1961/04	Jan	5	Jan	7	Feb	4	(21)
	1962/12 – 1963/09	Jun	8	Jun	8	Jun	9	(1,2,4,5,7,8,12,15,18,21)
	1974/04 – 1974/07	May	4	May	3	Jun	3	(21)
	1976/12 – 1977/06	Apr	5	Apr	5	Apr	5	(2,8,21)
	1984/02 – 1984/04	Mar	3	Mar	3	Apr	2	(3,4,5,6,7,8,9,10,11,12,16,17,18,21)
	1984/06 – 1984/09	Jul	4	Jun	3	N/A	0	(3,4,5,6,7,8,9,10,11,12,16,17,18,21)
	1994/10 – 1994/12	Dec	3	Oct	3	Nov	2	(10,21)
	1995/02 – 1995/04	Mar	3	Mar	3	Mar	3	(6,7,8,9,10,11,13,14,15,16,17,18,21)
	1997/10 – 1998/02	Oct	6	Jan	5	Oct	2	(7,11,14,17,21)
	1998/04 – 1998/07	Jun	4	Jun	4	N/A	0	(7,11,14,17,18,21)
	2001/03 – 2001/06	Apr	1	Apr	2	May	3	(10,12,13,15,19,21)
	2010/09 – 2011/04	Dec	8	Nov	8	Mar	5	(19,20,21)
Extreme coastal cold events (8)	1965/10 – 1965/12	Oct	3	Nov	3	N/A	0	(21)
	1980/10 – 1981/01	Dec	4	Dec	2	Feb	2	(21)
	1981/12 – 1982/08	May	9	Apr	8	Apr	9	(5,8,11,15,16,21)
	1983/03 – 1983/07	May	4	May	4	Mar	8	(5,11,16,17,21)
	1985/03 – 1985/06	May	3	Mar	3	Mar	3	(21)
	1991/10 – 1992/06	Mar	9	Mar	4	Mar	5	(11,12,21)
	1996/11 – 1997/06	Apr	8	Apr	8	Apr	8	(11,12,14,15,16,17,21)
	2010/02 – 2010/06	May	4	Feb	4	N/A	0	(19,21)

Table S1. Extreme coastal warm and coastal cold events along the south-eastern Atlantic Ocean, showing the event periods, peak month of the event and their duration in each of the 3 coastal zones of interest. The numbers in brackets stand for the following references: (1) *Stander and De Decker* [1969]; (2) *Shannon* [1985a]; (3) *Hisard et al.* [1986]; (4) *Shannon et al.*, [1986]; (5) *Walker* [1987]; (6) *Gammelsrød et al.* [1998]; (7) *Binet et al.* [2001]; (8) *Hardman-Mountford et al.* [2003]; (9) *Florenchie et al.* [2003]; (10) *Rouault et al.* [2003]; (11) *Florenchie et al.* [2004]; (12) *Reason et al.* [2006]; (13) *Rouault et al.* [2007]; (14) *Ostrowski et al.* [2009]; (15) *Rouault et al.* [2009]; (16) *Lübbecke et al.* [2010]; (17) *Rouault* [2012]; (18) *Lutz et al.* [2013]; (19) *Imbol Koungue et al.* [2017]; (20) *Rouault et al.* [2018]; (21) Present study.

	Events	Southern Angola (SA)		Angola Benguela Front (ABF)		Northern Namibia (NN)	
		Peak month	Duration (month)	Peak month	Duration (month)	Peak month	Duration (month)
Moderate coastal warm events (19)	1962/01 – 1962/03	N/A	0	Jan	1	Feb	3
	1962/05 – 1962/07	Jun	2	Jun	1	Jun	2
	1964/01 – 1964/02	Jan	2	Jan	1	N/A	0
	1976/02 – 1976/04	Feb	3	Feb	3	N/A	0
	1986/02 – 1986/03	Feb	1	Feb	2	N/A	0
	1990/09 – 1990/10	Oct	2	Oct	2	N/A	0
	1991/05 – 1991/06	May	2	May	2	May	1
	1993/09 – 1993/10	N/A	0	Oct	2	Nov	1
	1996/04 – 1996/05	Apr	2	Apr	1	N/A	0
	1998/09 – 1998/10	Sept	3	Sept	1	N/A	0
	1999/04 – 1999/05	Apr	2	Apr	2	Apr	1
	1999/06 – 1999/07	Jul	1	Jul	1	Jul	2
	2002/03 – 2002/05	May	2	Apr	3	Mar	2
	2004/10 – 2004/11	N/A	0	Nov	1	Nov	2
	2005/01 – 2005/03	Feb	3	Feb	1	N/A	0
	2006/03 – 2006/04	Apr	1	Apr	2	N/A	0
	2007/02 – 2007/05	Feb	4	Mar	1	N/A	0
	2012/10 – 2012/12	Dec	3	Dec	2	Dec	2
	2015/11 – 2015/12	Dec	2	Dec	2	N/A	0
Moderate coastal cold events (21)	1966/09 – 1966/10	Oct	2	Oct	1	N/A	0
	1968/09 – 1968/11	Oct	2	Oct	2	N/A	0
	1969/01 – 1969/02	N/A	0	Jan	1	Jan	2
	1969/04 – 1969/07	N/A	0	May	1	May	4
	1969/12 – 1970/01	N/A	0	Dec	2	Jan	2
	1970/03 – 1970/04	N/A	0	Mar	1	Mar	2
	1971/11 – 1972/01	Dec	3	Nov	2	N/A	0
	1974/09 – 1974/12	Nov	2	Oct	4	N/A	0
	1978/03 – 1978/05	Apr	2	Apr	2	N/A	0
	1979/03 – 1979/04	Apr	1	Apr	1	Apr	2
	1979/10 – 1979/11	Nov	2	Nov	1	Nov	1
	1980/01 – 1980/03	Mar	4	Jan	2	Jan	1
	1980/04 – 1980/05	May	1	Apr	2	Apr	2
	1981/03 – 1981/09	May	7	Apr	2	Mar	2
	1986/12 – 1987/04	N/A	0	Jan	1	Feb	5
	1994/02 – 1994/05	Feb	4	Apr	2	N/A	0
	2001/11 – 2002/02	Jan	3	Jan	2	N/A	0
	2004/03 – 2004/04	Apr	1	Apr	2	Mar	2
	2005/05 – 2005/06	May	2	May	2	Jun	1
	2012/02 – 2012/03	Feb	2	Feb	1	N/A	0
	2015/06 – 2015/07	Jun	1	Jun	2	Jul	2

Table S2. Classification of moderate coastal warm and coastal cold along the southeastern Atlantic Ocean, showing the event periods, peak month of the event and their duration in each of the 3 coastal zones of interest.