

## Reproductive investment in rocky intertidal mussels: spatio-temporal variability and environmental determinants

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Table S1. Relationships between *P. purpuratus* Body Mass and Mantle Mass

Locality	Year	Linear R <sup>2</sup>	Linear Slope	Power R <sup>2</sup>
Temblador	2012	0.843342	0.3000941	0.713686
	2013	0.614601	0.2767581	0.560217
Guanaqueros	2012	0.730646	0.4217062	0.796479
	2013	0.638951	0.3594185	0.75952
Punta Talca	2012	0.795418	0.53333764	0.741671
	2013	0.710583	0.5439163	0.71019
Los Molles	2012	0.762814	0.3743685	0.758833
	2013	0.710412	0.3564484	0.696188
ECIM	2012	0.691989	0.289307	0.6259
	2013	0.663922	0.3797604	0.673599
Pichilemu	2012	0.599117	0.3204191	0.574951
	2013	0.6337	0.4822705	0.640513

Table S2. ANCOVA

2012

Source	DF	SS	MS	F	P
Locality	5	0.07395	0.01479	81.95107	<0.0001***
Body Mass	1	1.02016	1.02016	5652.301	<0.0001***
Local x Body Mass	5	0.04798	0.009596	53.17210	<0.0001***
Error	1975	0.35646			

2013

Source	DF	SS	MS	F	P
Locality	5	0.167081	0.033416	97.64485	<0.0001***
Body Mass	1	1.320078	1.320078	3857.371	<0.0001***
Local x Body Mass	5	0.063471	0.012694	37.09394	<0.0001***
Error	2437	0.833995			

Table S3. Significance Testing of the Nested ANOVA

May 2012					
Source	DF	SS	MS	F	P
Locality	5	6219.1492	1243.8298	35.867868	<0.0001*
Site (local)	9	1242.1256	138.01395	3.9798583	<0.0001*
Platform (site, local)	19	4943.0153	260.1587	7.5021018	<0.0001*
June 2012					
Source	DF	SS	MS	F	P
Locality	5	16863.507	3372.7014	99.9873238	<0.0001*
Site (local)	11	4615.3440	419.57672	12.4387987	<0.0001*
Platform (site, local)	23	3869.5653	168.24196	4.98771232	<0.0001*
July 2012					
Source	DF	SS	MS	F	P
Locality	5	12004.412	2400.882	52.870357	<0.0001*
Site (local)	8	2891.6476	361.4559	7.9597004	<0.0001*
Platform (site, local)	20	4127.4706	206.3735	4.5445965	<0.0001*
May 2013					
Source	DF	SS	MS	F	P
Locality	5	8990.7609	1798.15218	38.7013914	<0.0001*
Site (local)	11	4671.4112	424.673745	9.14019683	<0.0001*
Platform (site, local)	20	5186.9818	259.34909	5.58193616	<0.0001*
June 2013					
Source	DF	SS	MS	F	P
Locality	5	10575.505	2115.101	41.0171547	<0.0001*
Site (local)	10	12836.243	1283.6243	24.8927202	<0.0001*
Platform (site, local)	19	3716.1323	195.58591	3.79290514	<0.0001*
July 2013					
Source	DF	SS	MS	F	P
Locality	5	24339.914	4867.9828	121.564013	<0.0001*
Site (local)	8	5416.6135	677.076685	16.9080628	<0.0001*
Platform (site, local)	17	3738.9220	219.936588	5.49229027	<0.0001*

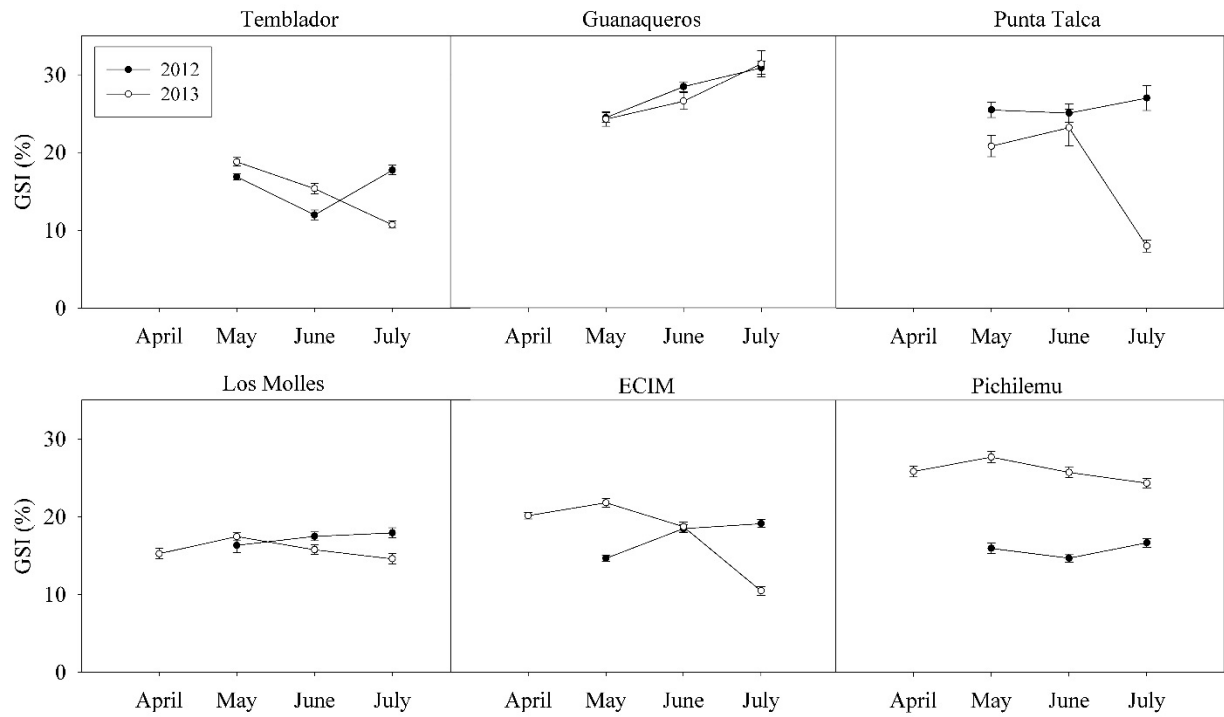


Fig. S1. Temporal pattern of mean GSI values at each study locality, with suspected spawning in July 2013 at Temblador, Punta Talca, and ECIM.

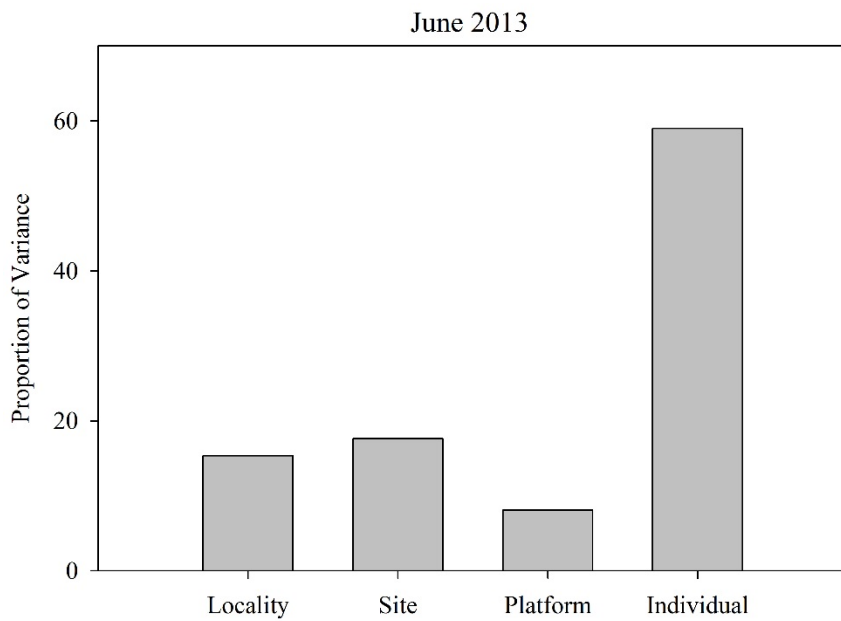


Fig. S2. The proportion of total variance calculated at each spatial level for June 2013 after the sites Guanaqueros and Punta Talca were removed.

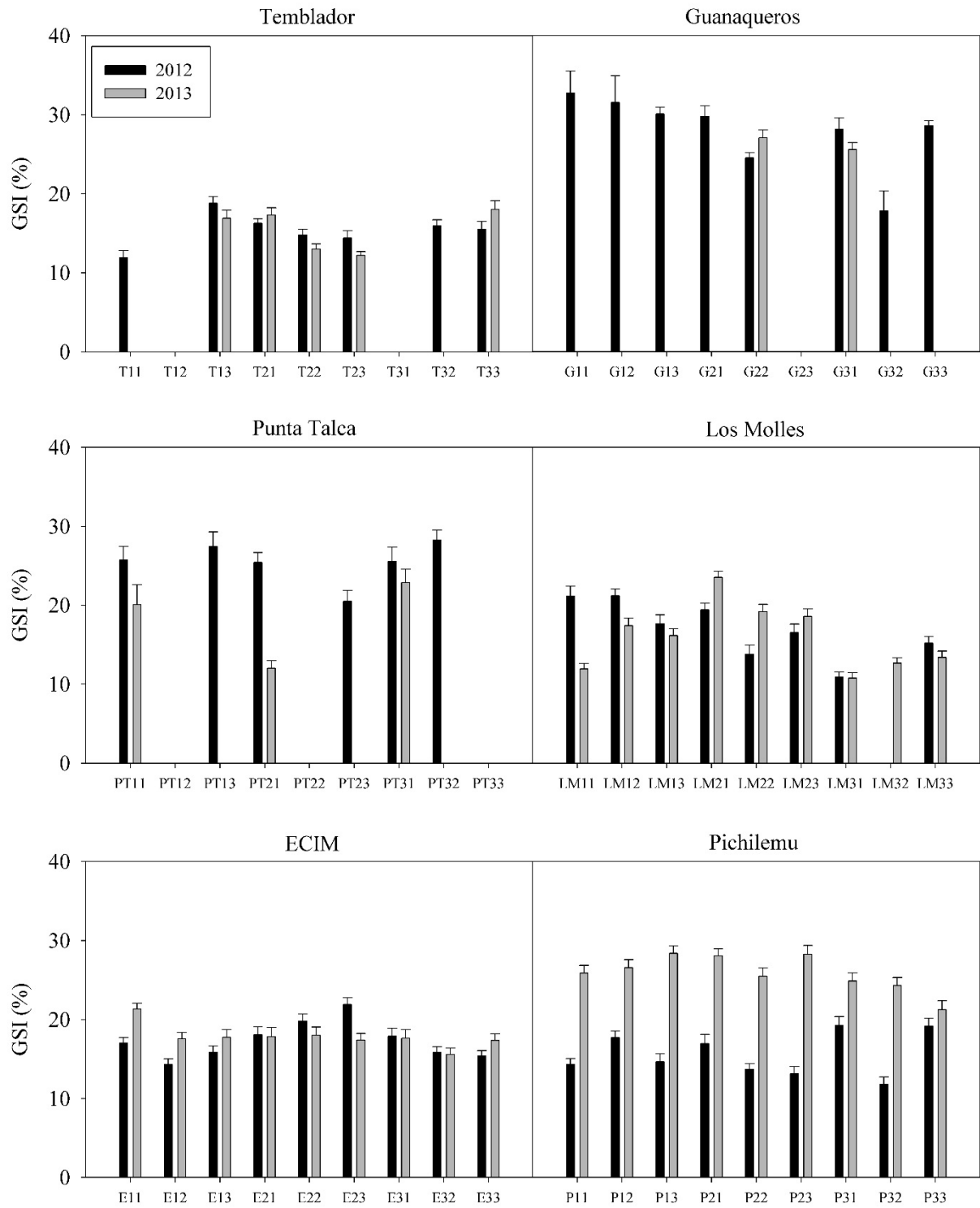


Fig. S3. Spatial pattern of mean GSI values across platforms at each locality. Black bars represent the months from 2012 and white bars represent the months from 2013, respectively.

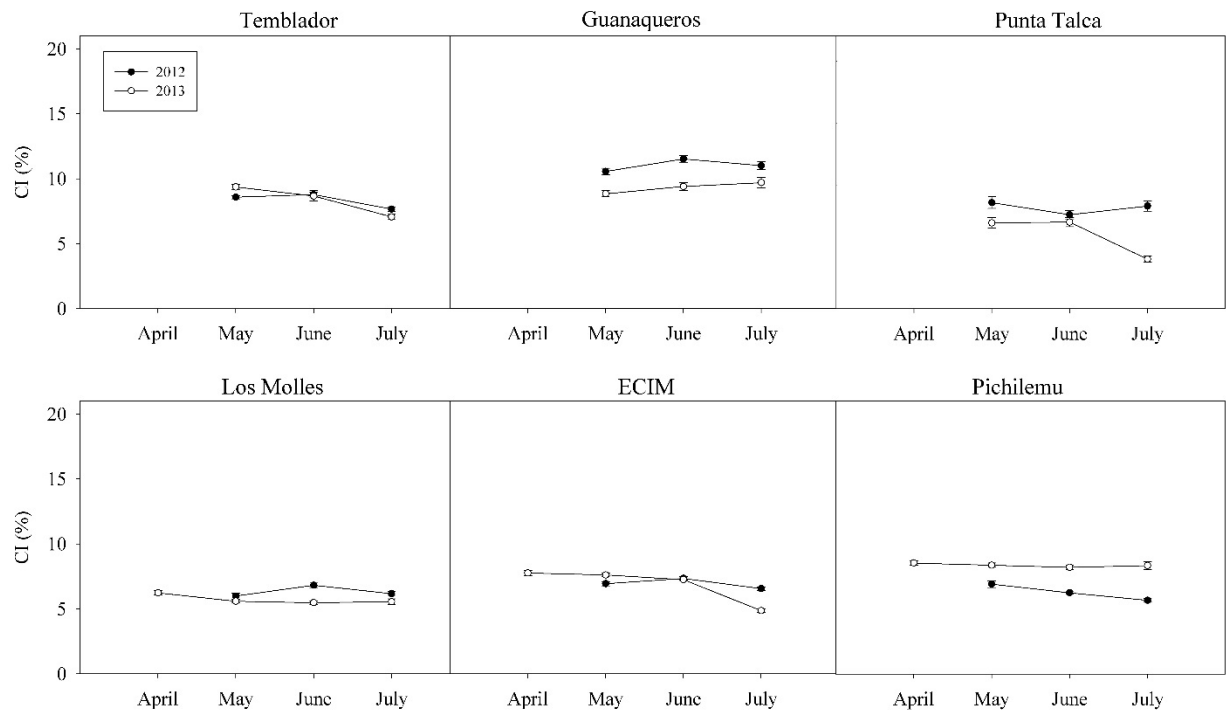


Fig. S4. Temporal pattern of mean CI values at each study locality, with suspected spawning in July 2013 at Temblador, Punta Talca, and ECIM.

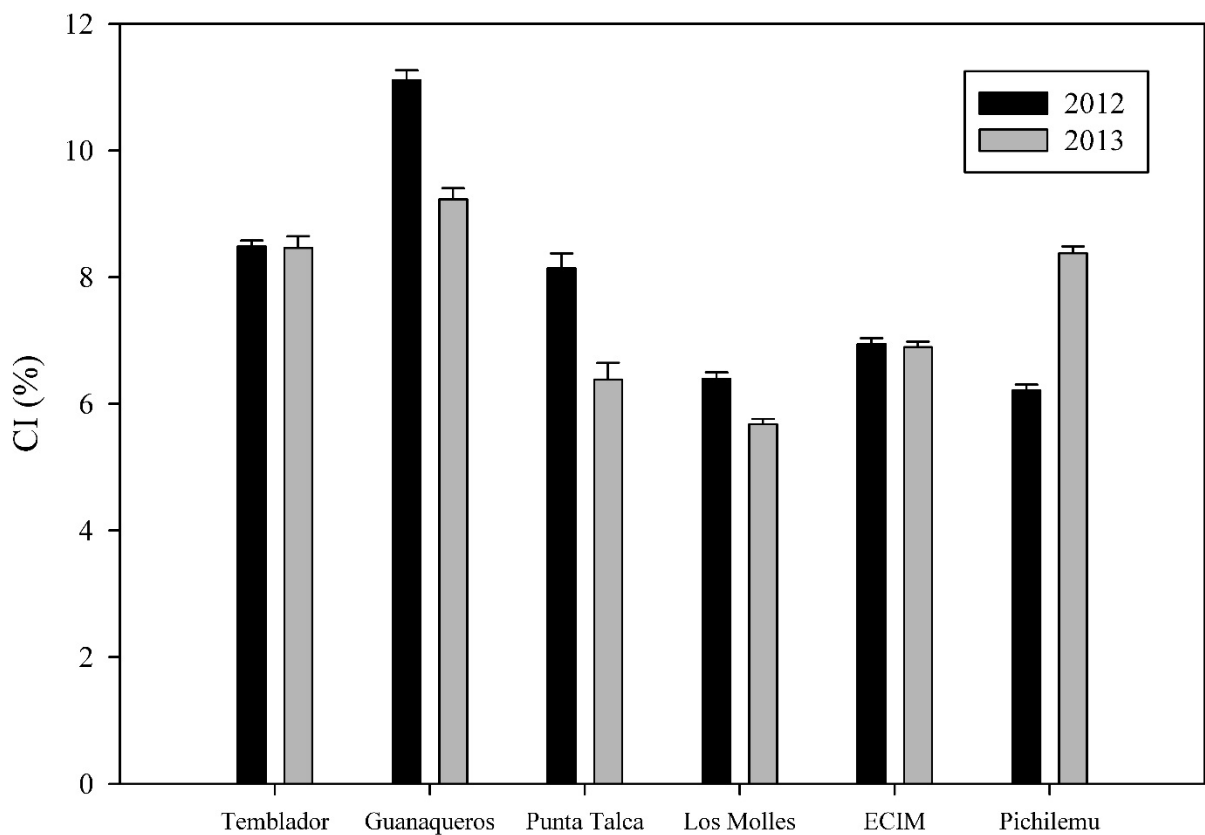


Fig. S5. Spatial pattern of the mean CI at the level of locality across the sampling period.

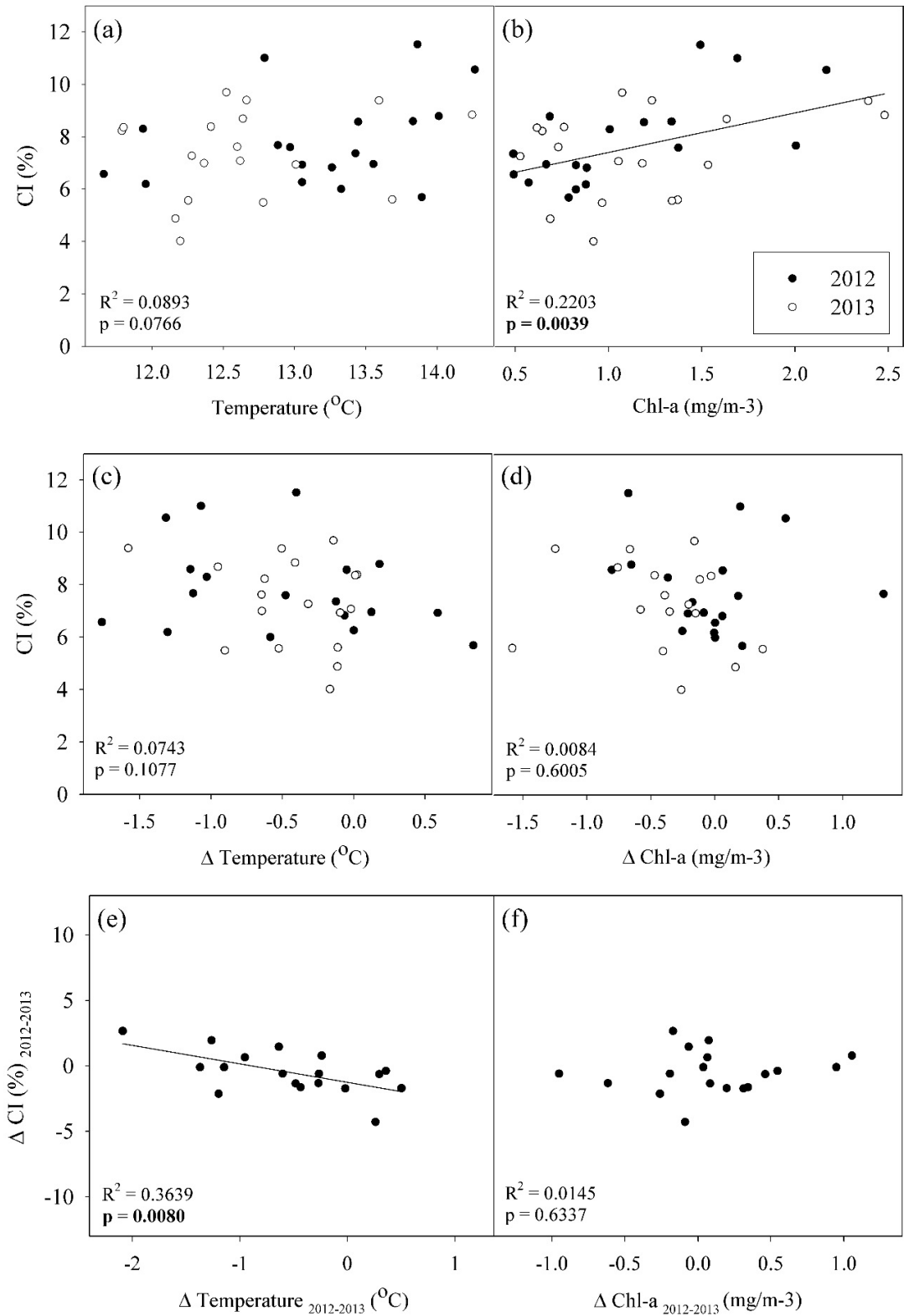


Fig. S6. Regressions of the environmental variables SST (a,c,e) and Chl-a (b,d,f) in relation to CI at the level of locality. The current state of the environment per month was compared (a,d) to mean CI values, as well as the environmental change between months (b,e). Interannual relationships were determined by calculating the difference of monthly CI, SST, and Chl-a values between 2012 and 2013 (c,f). Black circles represent the months from 2012 and white circles represent the months from 2013.

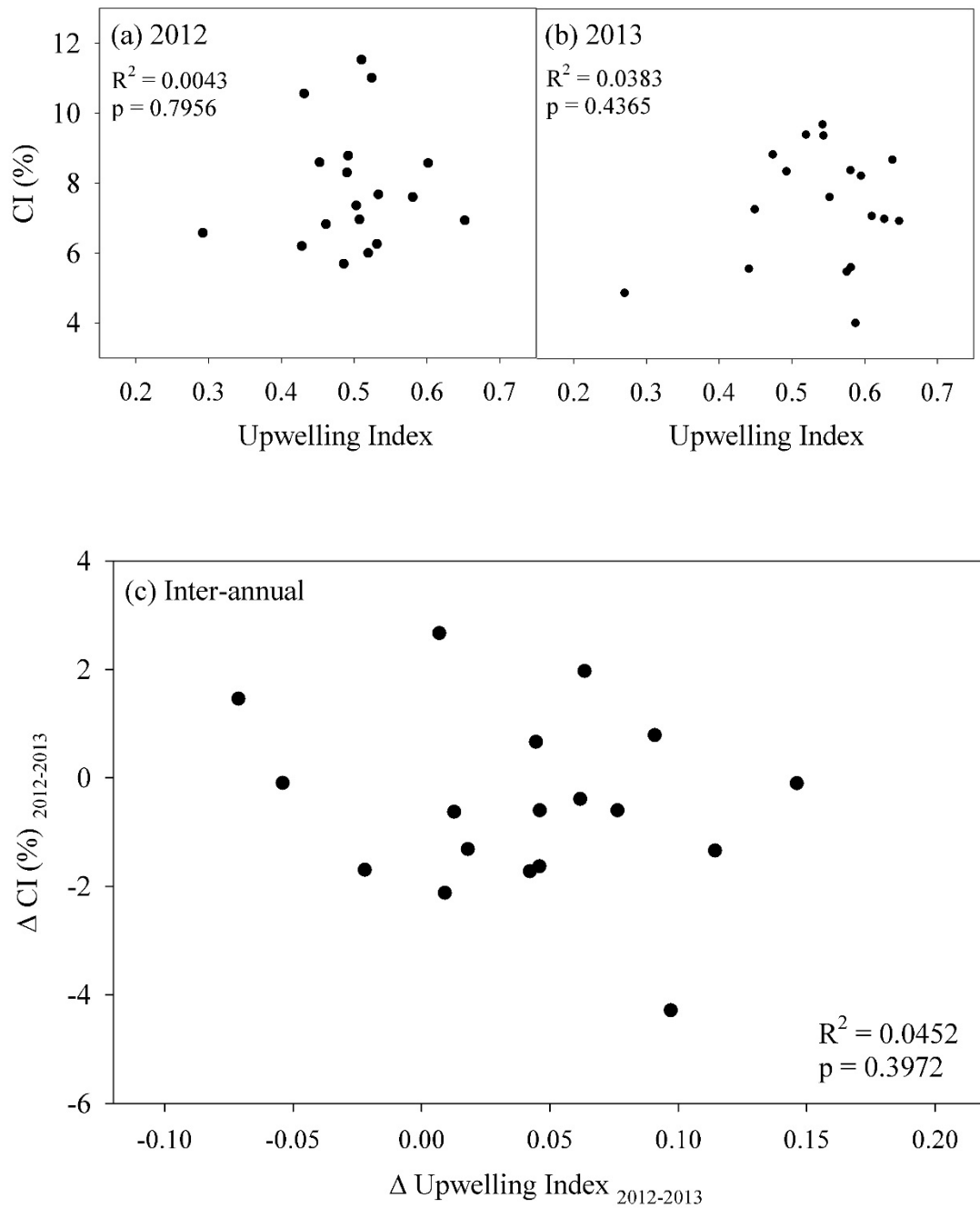


Fig. S7. Linear regression between the CI and calculated Upwelling Index (Pfaff et al. 2011) for each year (a,b) and the interannual differences (c).