Appendix S1 for *Ecology* article, "Dispersal synchronizes giant kelp forests"

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Table S1. Results of multiple regression on distance matrices models with $\mu = 98\%$.

Locations	Dispersal metric	Dispersal transform	Synchrony transform	*p*			
				Dispersal	Distance	Waves	Nitrate
All	Dispersal prob.	Linear	Logit	**0.001**	**0.001**	**0.001**	0.092
All	Dispersal prob.	Linear	Linear	**0.001**	**0.001**	**0.001**	**0.045**
All	Dispersal prob.	Log	Logit	**0.001**	**0.017**	**0.001**	**0.014**
All	Dispersal prob.	Log	Linear	**0.001**	**0.044**	**0.001**	**0.006**
All	Connectivity	Linear	Logit	**0.001**	**0.001**	**0.001**	0.104
All	Connectivity	Linear	Linear	**0.001**	**0.001**	**0.001**	**0.043**
All	Connectivity	Log	Logit	**0.001**	**0.003**	**0.001**	**0.014**
All	Connectivity	Log	Linear	**0.001**	**0.015**	**0.001**	**0.003**
Mainland	Dispersal prob.	Linear	Logit	**0.001**	0.157	0.385	0.207
Mainland	Dispersal prob.	Linear	Linear	**0.001**	0.422	0.524	0.102
Mainland	Dispersal prob.	Log	Logit	**0.001**	**0.013**	0.61	0.07
Mainland	Dispersal prob.	Log	Linear	**0.003**	**0.033**	0.648	**0.028**
Mainland	Connectivity	Linear	Logit	**0.001**	0.143	0.366	0.258
Mainland	Connectivity	Linear	Linear	**0.001**	0.388	0.479	0.08
Mainland	Connectivity	Log	Logit	**0.001**	**0.025**	0.58	0.071
Mainland	Connectivity	Log	Linear	**0.001**	**0.039**	0.592	**0.031**
Islands	Dispersal prob.	Linear	Logit	**0.002**	**0.001**	**0.001**	0.526
Islands	Dispersal prob.	Linear	Linear	**0.001**	**0.001**	**0.001**	0.681
Islands	Dispersal prob.	Log	Logit	**0.001**	0.78	**0.001**	0.446
Islands	Dispersal prob.	Log	Linear	**0.003**	0.153	**0.001**	0.63
Islands	Connectivity	Linear	Logit	**0.001**	**0.001**	**0.001**	0.573
Islands	Connectivity	Linear	Linear	**0.001**	**0.001**	**0.001**	0.703
Islands	Connectivity	Log	Logit	**0.001**	0.572	**0.001**	0.332
Islands	Connectivity	Log	Linear	**0.001**	0.582	**0.001**	0.443

Notes: Bold face denotes $p \leq 0.05$.

Table S2. Results of multiple regression on distance matrices models with $\mu = 50\%$.

Locations	Dispersal metric	Dispersal transform	Synchrony transform	*p*			
				Dispersal	Distance	Waves	Nitrate
All	Dispersal prob.	Linear	Logit	**0.001**	**0.001**	**0.001**	**0.023**
All	Dispersal prob.	Linear	Linear	**0.001**	**0.003**	**0.001**	**0.011**
All	Dispersal prob.	Log	Logit	**0.001**	**0.016**	**0.001**	**0.012**
All	Dispersal prob.	Log	Linear	**0.001**	**0.044**	**0.001**	**0.009**
All	Connectivity	Linear	Logit	**0.001**	**0.001**	**0.001**	**0.044**
All	Connectivity	Linear	Linear	**0.001**	**0.002**	**0.001**	**0.022**
All	Connectivity	Log	Logit	**0.001**	**0.001**	**0.001**	**0.02**
All	Connectivity	Log	Linear	**0.001**	**0.001**	**0.002**	**0.008**
Mainland	Dispersal prob.	Linear	Logit	**0.001**	0.875	0.739	0.052
Mainland	Dispersal prob.	Linear	Linear	**0.001**	0.864	0.814	**0.019**
Mainland	Dispersal prob.	Log	Logit	**0.001**	**0.023**	0.612	0.073
Mainland	Dispersal prob.	Log	Linear	**0.002**	**0.028**	0.635	**0.025**
Mainland	Connectivity	Linear	Logit	**0.001**	0.444	0.589	0.1
Mainland	Connectivity	Linear	Linear	**0.001**	0.741	0.662	**0.038**
Mainland	Connectivity	Log	Logit	**0.001**	**0.031**	0.479	0.083
Mainland	Connectivity	Log	Linear	**0.005**	**0.045**	0.499	**0.024**
Islands	Dispersal prob.	Linear	Logit	**0.001**	**0.001**	**0.001**	0.905
Islands	Dispersal prob.	Linear	Linear	**0.001**	**0.001**	**0.001**	0.873
Islands	Dispersal prob.	Log	Logit	**0.001**	0.735	**0.001**	0.414
Islands	Dispersal prob.	Log	Linear	**0.002**	0.157	**0.001**	0.651
Islands	Connectivity	Linear	Logit	**0.001**	**0.001**	**0.001**	0.971
Islands	Connectivity	Linear	Linear	**0.001**	**0.001**	**0.001**	0.994
Islands	Connectivity	Log	Logit	**0.001**	**0.002**	**0.001**	0.163
Islands	Connectivity	Log	Linear	**0.001**	0.055	**0.001**	0.193

Notes: Bold face denotes $p \leq 0.05$.

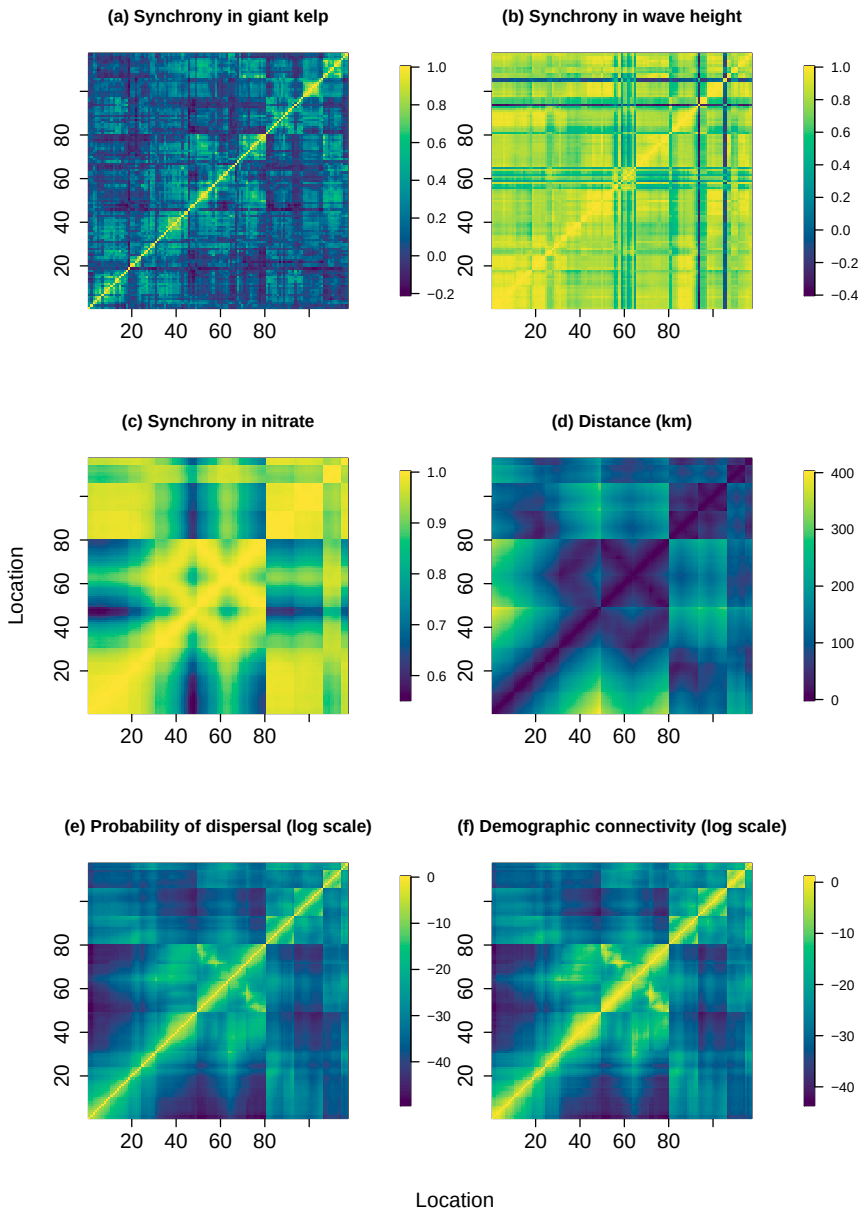

Figure S1: Example matrices used in multiple regression on distance matrices (MRM) models. Colors of (a), (b), and (c) are Pearson's *r*. Note differences in scale among panels. Locations 1–49 are along the California mainland, 50–80 surround the Northern Channel Islands (San Miguel Island, Santa Rosa Island, Santa Cruz Island, and Anacapa Island), 81–93 surround Santa Catalina Island, 94–106 surround San Clemente Island, 107–114 surround San Nicolas Island, and 115–117 surround Santa Barbara Island. See *Methods* for definitions of variables.