

1 **Latitudinal drivers of oyster mortality: deciphering host, pathogen and environmental risk**
2 **factors**

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16 SUPPORTING INFORMATION

17 Table S1. Model parameter estimates from Cox regression models using site as fixed factor
 18 for young oysters.

Parameter	Level	Df	Estimate	SE	χ^2	P	
Site†	Agnas	1	0.174	0.134	1.7	0.192	
	Blainville	1	0.600	0.114	27.5	<0.001	
	Brest	1	0.620	0.124	25.0	<0.001	
	Cancale	1	0.286	0.126	5.2	0.023	
	Coupelesse	1	0.237	0.136	3.0	0.082	
	Gefosse	1	-0.119	0.127	0.9	0.352	
	LarmorBaden	1	0.239	0.118	4.1	0.043	
	Loix	1	0.691	0.129	28.5	<0.001	
	Marseillan	1	0.746	0.130	32.8	<0.001	
	MenErRoue	1	0.318	0.108	8.7	0.003	
	Morlaix	1	-0.013	0.122	0.0	0.913	
	Penerf	1	0.288	0.124	5.4	0.021	
Origin (O)‡	Hatchery	1	0.506	0.121	17.6	<0.001	
Site x O	Agnas	Hatchery	1	-0.034	0.170	0.0	0.841
	Blainville	Hatchery	1	-1.043	0.153	46.6	<0.001
	Brest	Hatchery	1	-0.712	0.164	18.7	<0.001
	Cancale	Hatchery	1	-1.117	0.159	49.3	<0.001
	Coupelesse	Hatchery	1	0.302	0.169	3.2	0.073
	Gefosse	Hatchery	1	-0.313	0.159	3.9	0.049
	LarmorBaden	Hatchery	1	-0.476	0.150	10.1	0.002
	Loix	Hatchery	1	-0.084	0.158	0.3	0.594
	Marseillan	Hatchery	1	-0.214	0.169	1.6	0.205
	MenErRoue	Hatchery	1	-0.638	0.139	21.0	<0.001
	Morlaix	Hatchery	1	-0.517	0.156	11.0	0.001
	Penerf	Hatchery	1	-0.640	0.160	16.1	<0.001

19 † The reference site is Arcachon

20 ‡ The reference origin is wild

21 Table S2. Model parameter estimates from univariate Cox regression models using
 22 environmental parameters as covariates for young oysters. The average of each
 23 environmental variable was calculated over the longest period preceding the mortalities
 24 (15d for wild and 50d for hatchery oysters).

Effect	Df	χ^2	p
Origin (O)	1	58.6	<0.001
Temperature (T)	1	146.5	<0.001
O x T	1	61.6	<0.001
O x T	1	27.3	<0.001
Food level (F)	1	19.8	<0.001
O x F	1	32.5	<0.001
O x T	1	26.7	<0.001
Salinity (S)	1	228.8	<0.001
O x S	1	26.9	<0.001
O	1	17.8	<0.001
Sea-level pressure (SLP)	1	156.0	<0.001
O x SLP	1	17.8	<0.001
O	1	19.7	<0.001
Rainfall	1	185.0	<0.001
O x R	1	22.7	<0.001
O	1	7.6	0.006
Wind speed (W_{WE})	1	109.6	<0.001
O x W_{WE}	1	49.4	<0.001
O	1	3.3	0.068
Wind speed (W_{NS})	1	95.4	<0.001
O x W_{NS}	1	1.7	0.190

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27 Table S3. Summary of univariate Cox regression models using time-dependent
 28 environmental parameters and pathogen detection for young oysters.

Effect	Df	χ^2	p
Origin (O)	1	223.6	<0.001
OsHV-1	1	1378.1	<0.001
O x OsHV-1	1	47.4	<0.001
O	1	35.3	<0.001
<i>V. aestuarianus</i> (Va)	1	0.4	0.548
O x Va	1	8.4	0.004
Origin (O)	1	411.4	<0.001
Temperature (T)	1	117.5	<0.001
O x T	1	358.7	<0.001
O	1	48.1	<0.001
Food level (F)	1	671.5	<0.001
O x F	1	21.0	<0.001
O	1	96.7	<0.001
Salinity (S)	1	1.0	0.314
O x S	1	91.6	<0.001
O	1	34.9	<0.001
Wind speed (W_{WE})	1	10.6	0.001
O x W_{WE}	1	6.2	0.013
O	1	24.3	<0.001
Wind speed (W_{NS})	1	3.6	0.058
O x W_{NS}	1	6.5	0.011
O	1	47.0	<0.001
Sea-level pressure (SLP)	1	1.4	0.233
O x SLP	1	46.7	<0.001
O	1	0.2	0.625
Rainfall	1	266.2	<0.001
O x R	1	10.5	0.001

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31 Table S4. Model parameter estimates from Cox regression models using site as fixed factor
 32 for adult oysters.

Parameter	Level	Df	Estimate	SE	χ^2	P	Odds ratio
Site	Agnas	1	0.288	0.124	5.388	0.020	1.334
	Blainville	1	-0.156	0.140	1.246	0.264	0.856
	Brest	1	-0.086	0.137	0.394	0.530	0.918
	Cancale	1	-1.381	0.202	46.771	<0.001	0.251
	Coupelasse	1	-0.415	0.152	7.421	0.006	0.660
	Gefosse	1	0.548	0.118	21.460	<0.001	1.730
	LarmorBaden	1	-0.820	0.169	23.419	<0.001	0.440
	Loix	1	-0.486	0.154	9.999	0.002	0.615
	Marseillan	1	-0.083	0.140	0.356	0.551	0.920
	MenErRoue	1	-1.275	0.196	42.452	<0.001	0.279
	Morlaix	1	-0.493	0.150	10.793	0.001	0.611
	Penerf	1	-0.880	0.174	25.682	<0.001	0.415
	Tes	0	0.000

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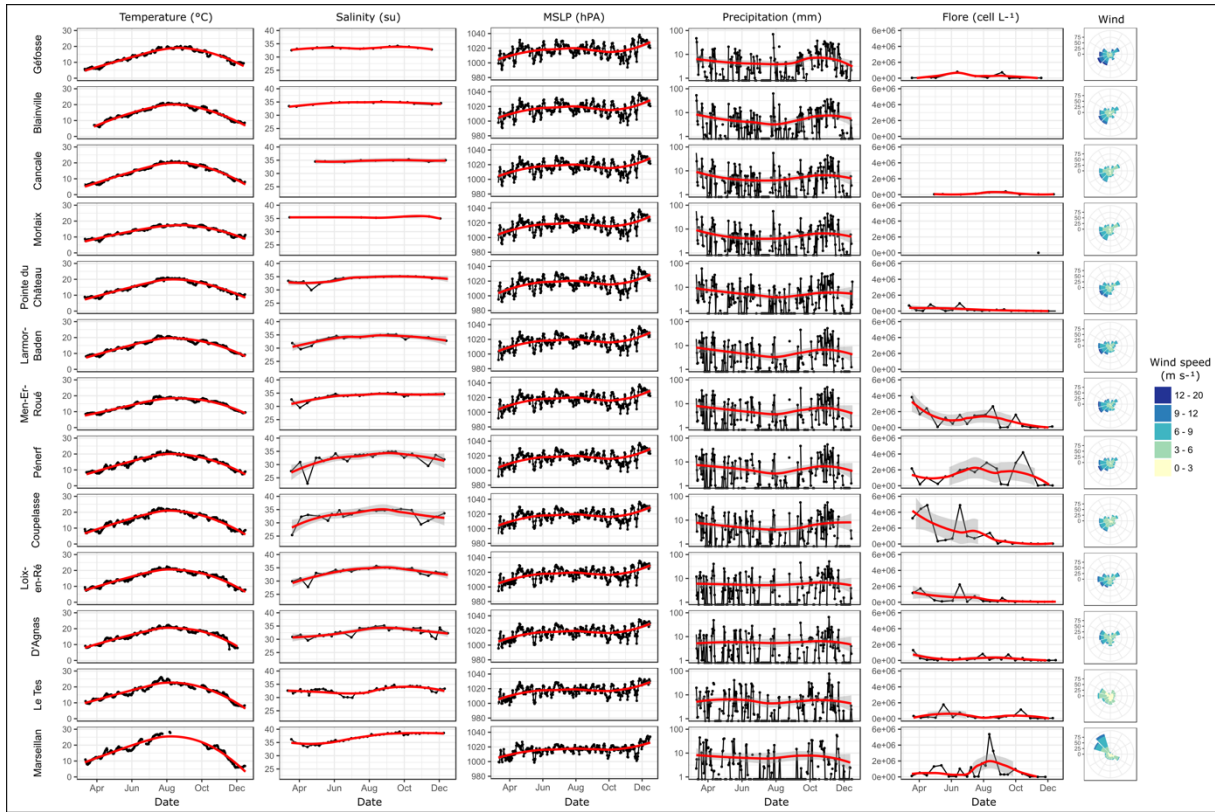
35 Table S5. Summary of univariate Cox regression models using time-dependent
36 environmental parameters and pathogen detection for adult oysters.

Effect	Df	χ^2	p
OsHV-1	1	0.2	0.620
<i>V. aestuarianus</i>	1	88.1	<0.001
Temperature	1	8.8	0.003
Salinity	1	14.0	0.000
Food level	1	0.3	0.593
Rainfall	1	11.2	0.001
Sea-level pressure	1	0.6	0.440
Wind speed (W_{WE})	1	2.8	0.094
Wind speed (W_{NS})	1	0.1	0.756

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40 Figure S1. Environmental data.