

The following supplement accompanies the article

Descriptive density models of scyphozoan jellyfish in the northern Gulf of Mexico

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Figure S1: Summer Gulf-wide jellyfish density GAM results for the **A)** remote sensing (RS), **B)** *in situ* (IS) and **C)** all-parameter (AP) methods.

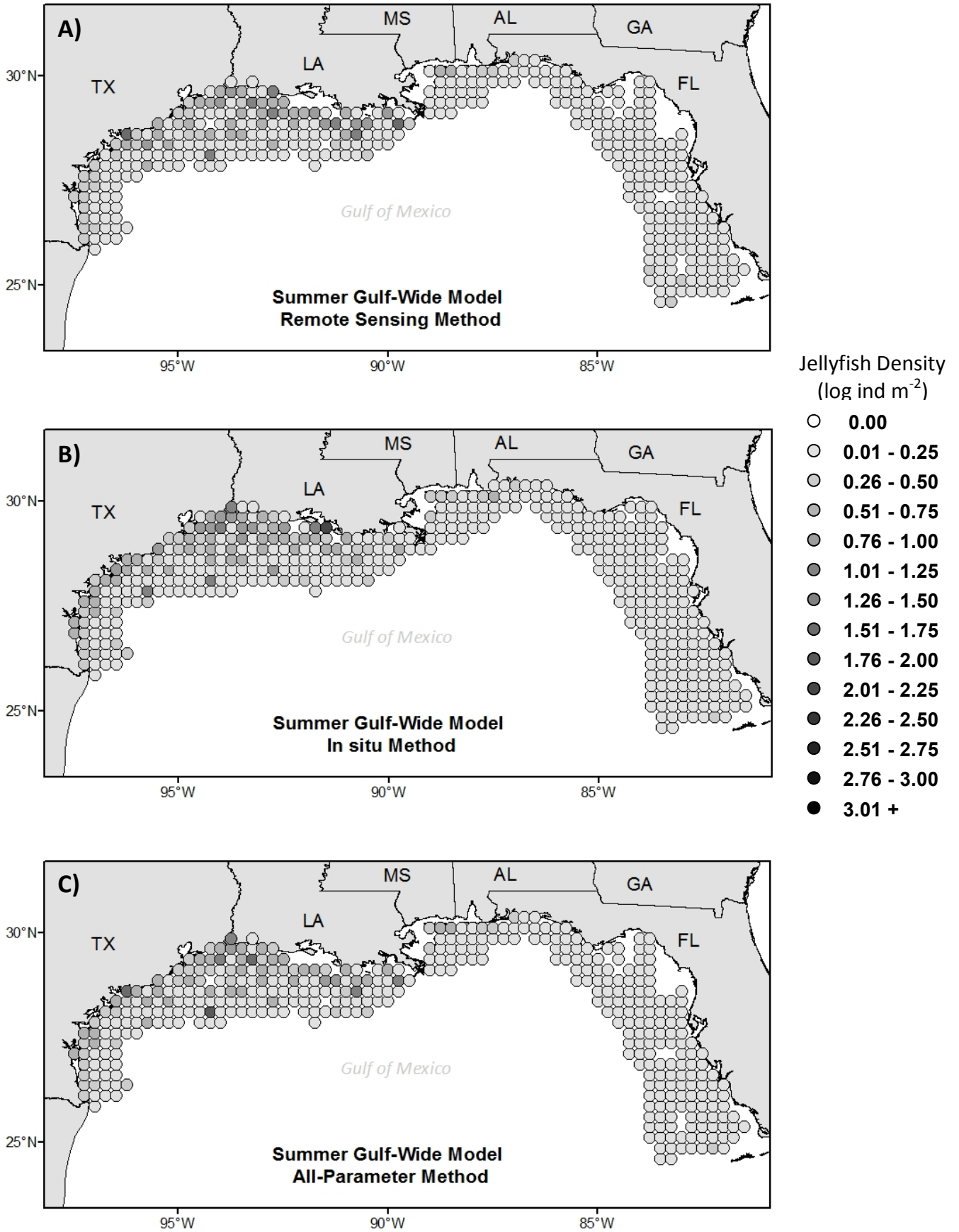


Figure S2: Fall Gulf-wide jellyfish density GAM results for the **A)** remote sensing (RS), **B)** *in situ* (IS) and **C)** all-parameter (AP) methods.

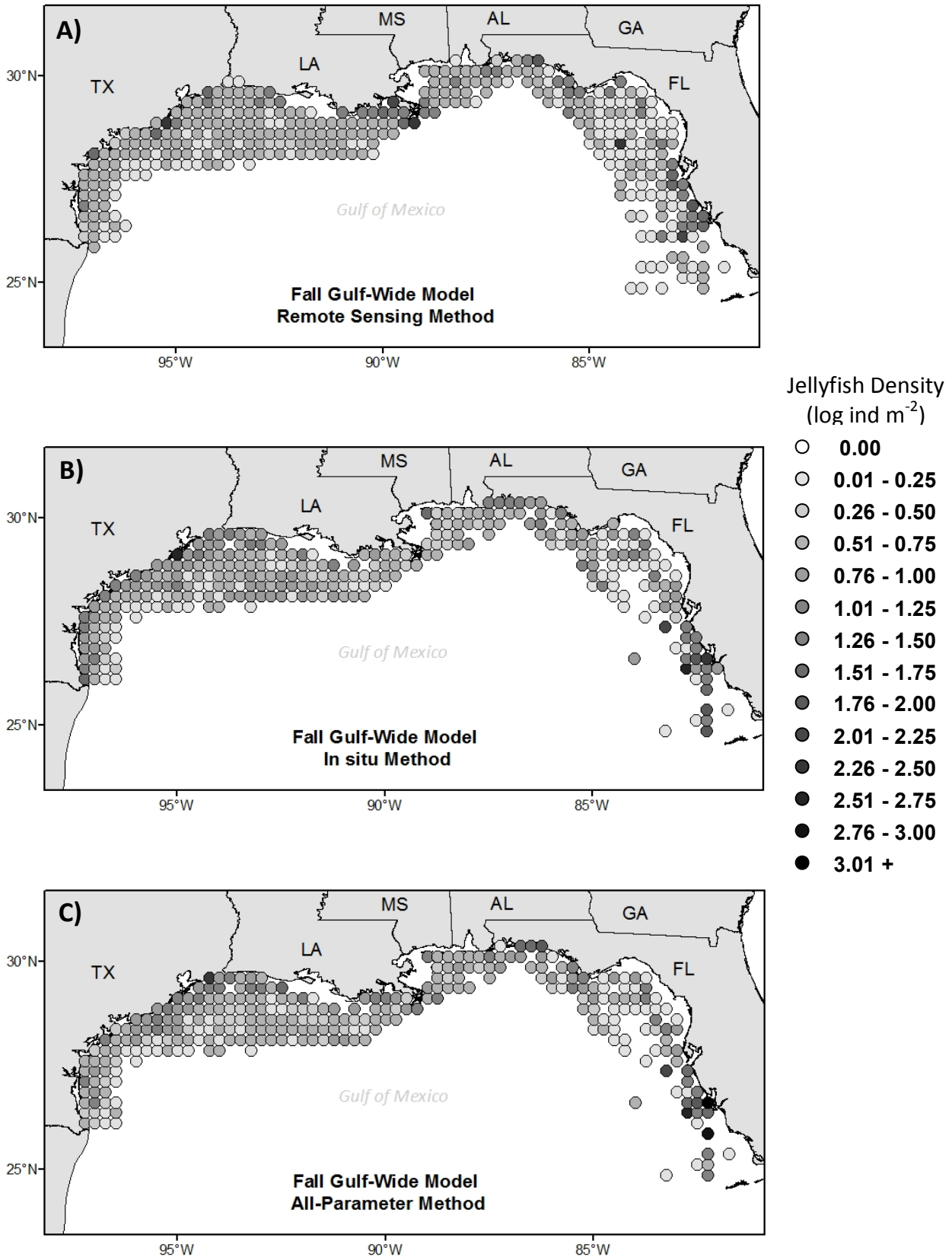


Table S1. GAM forward selection fitness values (REML and R²) for the remote sensing (RS), *in situ* (IS) and all-parameter (AP) methods of the regional models. Variables defined in Table 1. Chr/Aur: genus to which the variable was applied (Chr = *Chrysaora*, Aur = *Aurelia*).

	RS			IS			AP		
	variable	-REML	R ²	variable	-REML	R ²	variable	-REML	R ²
SumW	zonal	143.4	0.080	TURBSURF	103.05	0.036	TURBSURF	103.05	0.036
	eke_pos:Chr	87.02	0.488	TEMPMAX:Chr	53.33	0.473	zonal	99.48	0.109
	chlor_a:Chr	64.12	0.566	TEMPMAX:Aur	27.31	0.504	eke_pos:Chr	39.64	0.673
	chlor_a:Aur	41.87	0.53	CHLMAX:Aur	22.78	0.530	chlor_a:Chr	33.45	0.608
				SALMID:Aur	19.11	0.589	TEMPMAX:Chr	29.67	0.655
							chlor_a:Aur	8.55	0.645
							TEMPMAX:Aur	3.64	0.697
							CHLMAX:Aur	0.74	0.722
							SALMID:Aur	-1.17	0.753
SumE	zonal:Chr	67.43	0.101	DEPTHMAX:Chr	67.34	0.081	cdom:Chr	59.04	0.090
	cdom:Chr	58.66	0.169	CHLMAX:Aur	7.98	0.495	DEPTHMAX:Chr	58.55	0.132
	zonal:Aur	6.67	0.686	SALMAX:Aur	7.19	0.555	zonal:Aur	4.58	0.691
	shoredist:Aur	6.40	0.746	DEPTHMAX:Aur	2.69	0.682	shoredist:Aur	4.08	0.777
	cdom:Aur	5.74	0.735				cdom:Aur	3.40	0.756
							CHLMAX:Aur	-2.23	0.957
							SALMAX:Aur	-2.59	0.944
FallW	par:Chr	194.39	0.026	VGOXY:Chr	195.56	0.011	TEMPMAX:Chr	193.66	0.034
	chlor_a:Aur	84.32	0.306	TEMPMAX:Chr	193.66	0.034	CHLMID,Chlor_a:Aur	72.84	0.399
	cdom:Aur	78.76	0.362	CHLMID:Aur	77.15	0.245	DEPTHMAX:Aur	58.30	0.452
	shoredist:Aur	76.32	0.381	DEPTHMAX:Aur	61.20	0.416	cdom:Aur	56.73	0.500
	sla_pos:Aur	68.38	0.583	OXYMID:Aur	61.63	0.419	shoredist:Aur	54.32	0.500
				SALMAX:Aur	55.31	0.54	sla_pos:Aur	50.24	0.695
FallE	(zonal,eke_pos):Chr	208.7	0.056	VGSAL:Chr	206.57	0.095	zonal:Chr	208.66	0.045
	sst:Aur	141.61	0.484	VGSAL:Aur	133.51	0.573	eke_pos:Chr	208.66	0.045
	shoredist:Aur	135.22	0.567	TEMPMID:Aur	132.76	0.625	VGSAL:Chr	206.45	0.113
	(zonal,eke_pos):Aur	133.32	0.632				sst:Aur	137.40	0.518
							shoredist:Aur	131.78	0.605
							TEMPMID:Aur	123.41	0.747

Table S2. Variables selected by the GAMs to describe the density distribution of jellyfish in the gulfwide models, separated by season, method (remote sensing, *in situ*, and all-parameter), and genera of jellyfish. Variables defined in Table 1.

Summer Gulfwide		<i>Aurelia</i>	<i>Chrysaora</i>
	RS	cdom, shoredist	cdom, kd
	IS	VGTEMP, TEMPMAX	TEMPMAX, SALMAX
	AP	cdom, VGTEMP, TEMPMAX	TEMPMAX, SALMAX
Fall Gulfwide			
	RS	chlor_a, cdom, shoredist, meridional	par, shoredist
	IS	CHLMID, TEMPMAX, VGSAL, SALSURF	TEMPMAX
	AP	cdom, shoredist, CHLMID, TEMPMAX, VGSAL, SALSURF	par, shoredist

Table S3. GAM Gulf-wide results (mean (standard error)) for deviance explained (DE), r-squared (R^2), estimated degrees of freedom (EDF) and residual sum of squares (RSS) from 500 iterations of remote sensing (RS), *in situ* (IS) and all-parameter (AP) methods.

		DE	R^2	EDF	RSS
Summer					
	RS	60.4 (0.08)	0.30 (0.002)	7.01 (0.03)	6.50 (1.19)
	IS	65.5 (0.10)	0.49 (0.002)	7.51 (0.04)	4.74 (0.10)
	AP	67.2 (0.09)	0.44 (0.002)	10.03 (0.06)	4.71 (0.10)
Fall					
	RS	59.6 (0.12)	0.46 (0.001)	11.60 (0.06)	26.82 (0.50)
	IS	54.0 (0.13)	0.45 (0.002)	9.78 (0.03)	21.30 (0.33)
	AP	62.5 (0.13)	0.63 (0.002)	15.66 (0.05)	14.88 (0.22)