Table S1. Comparison of models estimating the effects of latitude (x_1), patch size (x_2), PC1 (x_3), PC2 (x_4), tropical storm frequency (x_5), hurricane frequency (x_6) on mean patch growth rate (y).

Model	Number of Parameters	AICc	w_i(AICc)
$y = k$	1	-25.150	0.001
$y = ax_1 + k$	2	-23.665	0.000
$y = ax_2 + k$	2	-27.238	0.002
$y = ax_3 + k$	2	-22.746	0.000
$y = ax_4 + k$	2	-22.550	0.000
$y = ax_5 + k$	2	-27.329	0.002
$y = ax_6 + k$	2	-31.584	0.014
$y = ax_1 + bx_2 + k$	3	-22.915	0.000
$y = ax_1 + bx_3 + k$	3	-19.836	0.000
$y = ax_1 + bx_4 + k$	3	-20.890	0.000
$y = ax_1 + bx_5 + k$	3	-23.428	0.000
$y = ax_1 + bx_6 + k$	3	-29.093	0.004
$y = ax_2 + bx_3 + k$	3	-22.936	0.000
$y = ax_2 + bx_4 + k$	3	-23.754	0.000
$y = ax_2 + bx_5 + k$	3	-24.216	0.000
$y = ax_2 + bx_6 + k$	3	-27.825	0.002
$y = ax_3 + bx_5 + k$	3	-23.108	0.000
$y = ax_3 + bx_6 + k$	3	-33.057	0.029
$y = ax_4 + bx_5 + k$	3	-23.902	0.000
$y = ax_4 + bx_6 + k$	3	-27.924	0.002
$y = ax_3 + bx_4 + k$	3	-19.355	0.000
$y = ax_3 + bx_4 + cx_5 + k$	4	-18.471	0.000
$y = ax_3 + bx_4 + cx_6 + k$	4	-27.831	0.002
$y = ax_5 + bx_6 + k$	3	-29.307	0.005
$y = ax_1 + bx_2 + cx_3 + k$	4	-17.385	0.000
$y = ax_1 + bx_2 + cx_4 + k$	4	-18.208	0.000
$y = ax_2 + bx_3 + cx_4 + k$	4	-18.200	0.000
$y = ax_1 + bx_2 + cx_5 + k$	4	-18.645	0.000
$y = ax_1 + bx_2 + cx_6 + k$	4	-25.577	0.001
$y = ax_1 + bx_5 + cx_6 + k$	4	-26.258	0.001
$y = ax_3 + bx_5 + cx_6 + k$	4	-30.374	0.008
$y = ax_2 + bx_3 + cx_5 + k$	4	-18.666	0.000
$y = ax_2 + bx_4 + cx_5 + k$	4	-19.536	0.000
$y = ax_2 + bx_3 + cx_6 + k$	4	-28.818	0.004
$y = ax_2 + bx_4 + cx_6 + k$	4	-22.967	0.000
$y = ax_2 + bx_5 + cx_6 + k$	4	-23.739	0.000
$y = ax_4 + bx_5 + cx_6 + k$	4	-24.507	0.000
$y = ax_1 + bx_2 + cx_3 + dx_5 + k$	5	-11.388	0.000
$y = ax_1 + bx_2 + cx_3 + dx_6 + k$	5	-21.806	0.000

$y = ax_1 + bx_2 + cx_4 + dx_5 + k$	5	-12.200	0.000
$y = ax_1 + bx_2 + cx_4 + dx_6 + k$	5	-18.185	0.000
$y = ax_2 + bx_3 + cx_4 + dx_5 + k$	5	-12.118	0.000
$y = ax_2 + bx_3 + cx_4 + dx_6 + k$	5	-21.766	0.000
$y = ax_3 + bx_4 + cx_5 + dx_6 + k$	5	-23.377	0.000
$y = ax_5 + bx_5^2 + k$	3	-23.903	0.000
$y = ax_1 + bx_5 + cx_5^2 + k$	4	-20.569	0.000
$y = ax_2 + bx_5 + cx_5^2 + k$	4	-21.663	0.000
$y = ax_3 + bx_5 + cx_5^2 + k$	4	-18.863	0.000
$y = ax_4 + bx_5 + cx_5^2 + k$	4	-18.801	0.000
$y = ax_3 + bx_4 + cx_5 + dx_5^2 + k$	5	-11.828	0.000
$y = ax_6 + bx_6^2 + k$*	**3**	**-39.113**	**0.608****
$y = ax_1 + bx_6 + cx_6^2 + k$	4	-33.797	0.043
$y = ax_2 + bx_6 + cx_6^2 + k$	4	-36.009	0.129
$y = ax_3 + bx_6 + cx_6^2 + k$	4	-33.654	0.040
$y = ax_4 + bx_6 + cx_6^2 + k$	4	-33.543	0.038
$y = ax_3 + bx_4 + cx_6 + dx_6^2 + k$	5	-26.229	0.001
$y = ax_5 + bx_5^2 + cx_6 + dx_6^2 + k$	5	-34.173	0.051
$y = ax_1 + bx_2 + cx_5 + dx_5^2 + k$	5	-14.914	0.000
$y = ax_1 + bx_2 + cx_6 + dx_6^2 + k$	5	-28.585	0.003
$y = ax_2 + bx_3 + cx_5 + dx_5^2 + k$	5	-14.243	0.000
$y = ax_2 + bx_3 + cx_6 + dx_6^2 + k$	5	-28.748	0.003
$y = ax_2 + bx_4 + cx_5 + dx_5^2 + k$	5	-14.316	0.000
$y = ax_2 + bx_4 + cx_6 + dx_6^2 + k$	5	-28.580	0.003
$y = ax_2 + bx_3 + cx_5 + dx_6 + k$	5	-23.015	0.000
$y = ax_2 + bx_4 + cx_5 + dx_6 + k$	5	-17.081	0.000
$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_5 + k$	6	-2.920	0.000
$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_6 + k$	6	-12.722	0.000
$y = ax_1 + bx_2 + cx_3 + dx_5 + ex_6 + k$	6	-13.533	0.000
$y = ax_1 + bx_2 + cx_4 + dx_5 + ex_6 + k$	6	-8.889	0.000
$y = ax_2 + bx_3 + cx_4 + dx_5 + ex_6 + k$	6	-13.046	0.000
$y = ax_1 + bx_2 + cx_3 + dx_5 + ex_5^2 + k$	6	-7.064	0.000
$y = ax_1 + bx_2 + cx_3 + dx_6 + ex_6^2 + k$	6	-18.530	0.000
$y = ax_1 + bx_2 + cx_4 + dx_5 + ex_5^2 + k$	6	-4.728	0.000
$y = ax_1 + bx_2 + cx_4 + dx_6 + ex_6^2 + k$	6	-18.185	0.000
$y = ax_2 + bx_3 + cx_4 + dx_5 + ex_5^2 + k$	6	-3.951	0.000
$y = ax_2 + bx_3 + cx_4 + dx_6 + ex_6^2 + k$	6	-18.350	0.000
$y = ax_2 + bx_5 + cx_5^2 + dx_6 + ex_6^2 + k$	6	-23.886	0.000
$y = ax_1 + bx_5 + cx_5^2 + dx_6 + ex_6^2 + k$	6	-23.790	0.000
$y = ax_3 + bx_5 + cx_5^2 + dx_6 + ex_6^2 + k$	6	-23.914	0.000
$y = ax_4 + bx_5 + cx_5^2 + dx_6 + ex_6^2 + k$	6	-23.819	0.000
$y = ax_3 + bx_4 + cx_5 + dx_5^2 + ex_6 + fx_6^2 + k$	7	-8.386	0.000
$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_5 + fx_5^2 + k$	7	6.826	0.000

$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_6 + fx_6^2 + k$	7	-3.055	0.000
$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_5 + fx_6 + k$	7	-0.061	0.000
$y = ax_1 + bx_2 + cx_3 + dx_4 + ex_5 + fx_5^2 + gx_6 + hx_6^2 + k$	9	69.006	0.000

* Best model based on AIC weights.

** Evidence ratio of the best model = 4.72, normalized evidence ratio = 0.82.