SUPPLEMENTARY MATERIALS 1

Supplementary Figures and Tables

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FIGURE 1 Mean monthly precipitations in the Indian Ocean averaged over 2000-2019.



FIGURE 2 Total number of weighted released particles, for each scenario relative to the value on 2000-01-01 $(\sum_{j=1}^{R} w_{j,t} n_{j,t}^{j,t})$, with *R* the total number of release locations, $w_{j,t}$ the applied weight for release location *j* at time *t* and $n_{j,t}^{j,t} = 1000$, the number of particles present at release location *j* at time *t* that are released at release location *j* at time *t*, see Eq. 1 in main text). CL: Coastline Length; CC: Coastal forest Cover; RC: River forest Cover multiplied by river discharge; CCp: Coastal forest Cover multiplied by precipitations; RCp: River forest Cover multiplied by river discharge and by precipitations; R&CC: River plus Coastal forest Cover.

TABLE 1 Slope coefficients of the linear regressions performed between the NLOG density anomaly (*A*) and time in each area, for the different weighting scenarios. For each area, the first line contains the slope coefficients (in bold when significant) and the second line contains the corrected p-value in parenthesis. CL: Coastline Length; CC: Coastal forest Cover; RC: River forest Cover multiplied by river discharge; CCp: Coastal forest Cover multiplied by precipitations; RCp: River forest Cover multiplied by river discharge and by precipitations; R&CC: River plus Coastal forest Cover. IO: Indian Ocean; SCTR: Seychelles-Chagos Thermocline Ridge.

Area	Weighting scenario					
	CL	сс	RC	ССр	RCp	R&CC
Arabian Sea	2.4×10 ⁻⁵	3.6×10 ⁻⁵	$-3.8 imes10^{-6}$	$3.0 imes 10^{-5}$	-2.5×10^{-5}	1.4×10^{-5}
	(0.037)	(0.012)	(0.56)	(0.35)	(0.74)	(0.18)
Bay of Bengal	$5.8 imes 10^{-5}$	1.0×10^{-4}	$-5.8 imes10^{-6}$	1.1×10^{-4}	-6.1×10^{-5}	$1.4 imes 10^{-6}$
	(0.13)	(0.07)	(0.62)	(0.08)	(0.85)	(0.48)
Eastern IO	$-5.4 imes 10^{-5}$	$-4.0 imes10^{-6}$	$-4.4 imes 10^{-5}$	$-1.8 imes 10^{-5}$	$-3.4 imes10^{-5}$	$-4.8 imes 10^{-5}$
	(0.87)	(0.54)	(0.84)	(0.66)	(0.79)	(0.86)
Indonesia	$4.9 imes 10^{-5}$	-6.2×10^{-5}	-1.7×10^{-5}	$-7.0 imes10^{-5}$	$-7.8 imes10^{-5}$	$-2.4 imes 10^{-5}$
	(0.16)	(0.86)	(0.65)	(0.90)	(0.93)	(0.70)
Mozambique	$6.0 imes 10^{-6}$	$7.2 imes 10^{-6}$	-2.3×10^{-5}	1.9×10^{-5}	-3.1×10^{-6}	$-3.1 imes 10^{-5}$
	(0.46)	(0.45)	(0.70)	(0.26)	(0.55)	(0.74)
SCTR	-1.6×10^{-5}	1.8×10^{-5}	-1.1×10^{-5}	$3.7 imes 10^{-5}$	$5.1 imes 10^{-6}$	-1.2×10^{-5}
	(0.68)	(0.31)	(0.63)	(0.15)	(0.44)	(0.66)
Somalia	$-3.2 imes 10^{-5}$	$-3.6 imes 10^{-5}$	$-5.8 imes10^{-5}$	$-2.1 imes 10^{-5}$	$-5.5 imes10^{-5}$	$-5.9 imes10^{-5}$
	(0.77)	(0.83)	(0.94)	(0.69)	(0.91)	(0.95)
Southern IO	-1.5×10^{-5}	$5.4 imes 10^{-5}$	3.1×10^{-5}	1.0×10^{-5}	-2.7×10^{-5}	3.5×10^{-5}
	(0.60)	(0.22)	(0.32)	(0.44)	(0.65)	(0.31)



FIGURE 3 Anomaly of the simulated density of NLOGs from 2000 to 2019, averaged over the Arabian Sea region. The mean seasonal variations were subtracted to the raw densities to obtain an NLOG density anomaly. The grey line represents a linear regression between the NLOG density anomaly and the time. CL: Coastline Length (corrected p.value for slope 3.7×10^{-2}); CC: Coastal forest Cover (corrected p.value 1.2×10^{-2}); RC: River forest Cover multiplied by river discharge (corrected p.value 5.6×10^{-1}); CCp: Coastal forest Cover multiplied by precipitations (corrected p.value 3.5×10^{-1}); RCp: River forest Cover multiplied by river discharge and by precipitations (corrected p.value 7.4×10^{-1}); R&CC: River plus Coastal forest Cover (corrected p.value 1.8×10^{-1}).



FIGURE 4 Anomaly of the simulated density of NLOGs from 2000 to 2019, averaged over the Mozambique region. The mean seasonal variations were subtracted to the raw densities to obtain an NLOG density anomaly. The grey line represents a linear regression between the NLOG density anomaly and the time. CL: Coastline Length (corrected p.value 4.6×10^{-1}); CC: Coastal forest Cover (corrected p.value 4.5×10^{-1}); RC: River forest Cover multiplied by river discharge (corrected p.value 7.0×10^{-1}); CC: Coastal forest Cover multiplied by river discharge and by precipitations (corrected p.value 2.6×10^{-1}); RCp: River forest Cover multiplied by river discharge and by precipitations (corrected p.value 5.5×10^{-1}); R&CC: River plus Coastal forest Cover (corrected p.value 7.4×10^{-1}).



FIGURE 5 Simulated density of NLOGs per quarter averaged over 2000-2019 for the RCp scenario. Maximum value was set to 1 and values below 10⁻⁴ were discarded. RCp: River forest Cover multiplied by river discharge and by precipitations.