



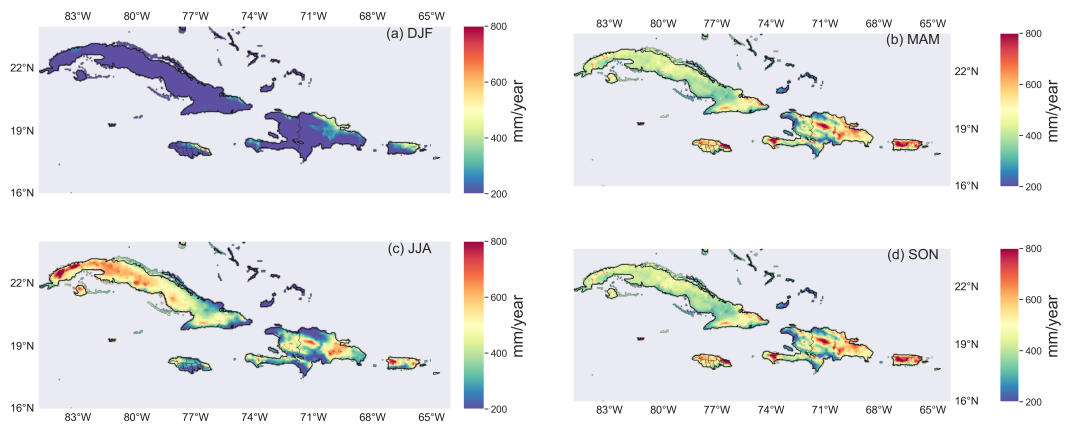
*Supplement of*

## **Changes in extreme precipitation patterns over the Greater Antilles and teleconnection with large-scale sea surface temperature**

**Carlo Destouches et al.**

*Correspondence to:* Carlo Destouches ([carlo.destouches@univ-grenoble-alpes.fr](mailto:carlo.destouches@univ-grenoble-alpes.fr))

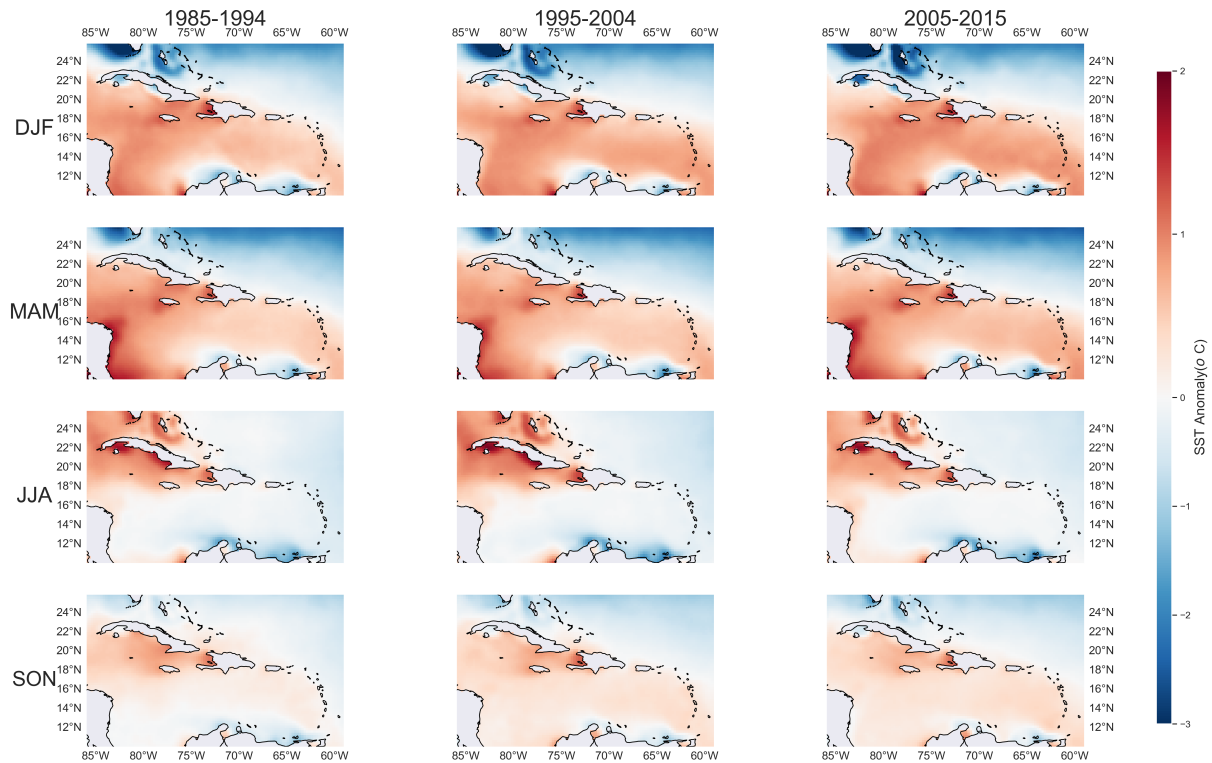
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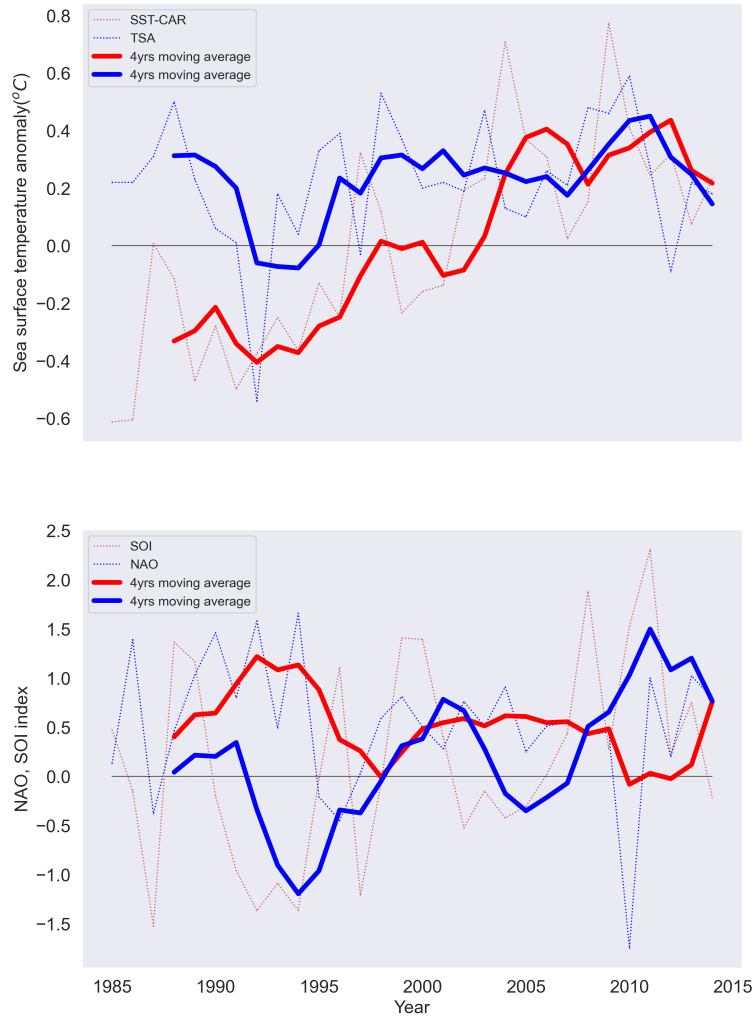
**Figure S1.** Average seasonal precipitation in the study area calculated for (a) winter (DJF); (b) spring (MAM); (c) summer (JJA); and (d) autumn (SON).


	PRCPTOT	RR1	SDII	R95	CWD	CDD
<b>a) INDEX-SST-CAR</b>						
Cuba(NW)	↓*	↓**	↓	↓	↓**	↑
Cuba(SE)	↑**	↓	↑**	↑**	↓	↑
Haïti(N)	↑	↑**	↑*	↑**	↑**	↑**
Haïti(S)	↑**	↑**	↑*	↑**	↑**	↑*
Saint Domingue	↑	↑**	↓*	↓	↑**	↑*
Jamaïque	↑	↑	↑*	↑*	↓	↑*
Porto-Rico	↑	↑*	↑*	↑**	↓**	↓
<b>b) INDEX-NOA</b>						
Cuba(NW)	↓**	↑*	↓**	↓**	↑*	↓
Cuba(SE)	↓	↑*	↓*	↓**	↓	↓*
Haïti(N)	↓**	↓	↓*	↓**	↓	↓*
Haïti(S)	↓**	↑	↓*	↓**	↓	↓
Saint Domingue	↓*	↓*	↓	↓**	↓*	↓*
Jamaïque	↓**	↑	↓*	↓**	↓	↓
Porto-Rico	↓	↓*	↑	↓	↓*	↑
<b>c) INDEX-SOI</b>						
Cuba(NW)	↓**	↓*	↓	↓*	↓*	↑*
Cuba(SE)	↑*	↓**	↑**	↑**	↓*	↑*
Haïti(N)	↑	↑	↑	↑*	↑*	↑*
Haïti(S)	↑	↑**	↓	↑	↑**	↑
Saint Domingue	↑	↑*	↓	↑	↑**	↑**
Jamaïque	↑	↓	↑	↑	↓	↓
Porto-Rico	↑**	↑*	↑*	↑**	↑	↑
<b>d) INDEX-TSA</b>						
Cuba (NW)	↓*	↓**	↓	↓	↓**	↑
Cuba(SE)	↑	↓**	↑**	↑**	↓**	↓*
Haïti(N)	↑	↓	↑**	↑*	↓*	↑
Haïti(S)	↑*	↓	↑*	↑*	↑	↑
Saint Domingue	↑	↑	↑	↑	↑*	↑*
Jamaïque	↑**	↑	↑**	↑**	↓	↓
Porto-Rico	↑**	↑*	↑*	↑**	↑	↑*

**Table S1.** Table showing the local effect of large-scale SST indices on extreme precipitation over. At the top of the table, the extremes are indicated and the first column on the left, the SST indices. The blue arrow indicates a negative effect on average, while the red arrow indicates a positive effect. Arrows without a symbol are not statistically significant, but those with one or/and two asterisks (\*) are significant at a threshold less than or equal to 0.05. The symbol (\*) means that the effect is statistically significant on an area less than 50%, while (\*\*) the effect is significant on an area greater than 50%.



**Figure S2.** Spatial anomaly by decade of sea temperature in the Greater Antilles (1985-2015). The DJF, MAM, JJA and SON lines show the spatial anomaly of sea surface temperature in the Caribbean. The anomalies are divided into three decades. Each column of the figure corresponds to a decade; the first decade (1985-1994) is represented by the first column, while the second (1994-2004) and third (2005-2015) are represented by the second and third columns respectively.



**Figure S3.** Temporal evolution of sea surface temperature anomalies (mean SST 14-16N, 65-W; mean SST over 0-20S, 10E-30W) and pressure anomalies (NAO, SOI) over the period 1985-2015.