

**Trends in Global Tropical Cyclone Activity: 1990-2020**

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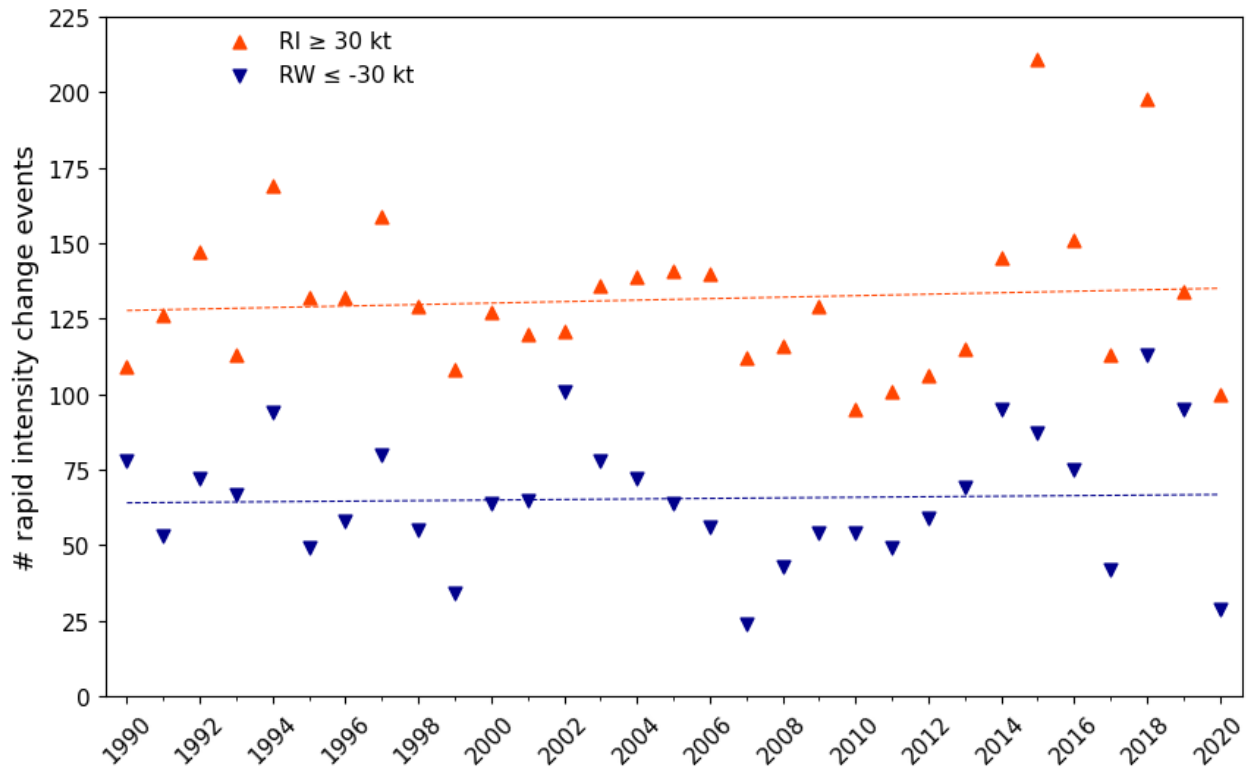
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**Introduction**

This supporting information includes one additional figure and two additional tables. Figure S1 displays global rapid intensity change events at a 30-kt threshold from 1990-2020. Table S1 displays average values of various TC indices from 1990-2020. Table S2 displays linear per-decade trends in these TC indices from 1990-2020.



**Figure S1.** Global rapid intensity change events for the 30-kt RI and -30-kt RW thresholds.

**Table S1.** Average annual values for several TC metrics globally and for six individual TC basins during 1990-2020. The percentage of global TC activity generated in each basin is listed in parentheses.

TC Metric	Globe	North Atlantic	Eastern North Pacific	Western North Pacific	North Indian	South Indian	South Pacific
Named Storms	87.1	14.4 (17%)	16.7 (19%)	25.6 (29%)	5.2 (6%)	15.8 (18%)	9.3 (11%)
Named Storms ≤2 Days	21.0	3.8 (18%)	4.2 (20%)	4.9 (23%)	2.1 (10%)	3.4 (16%)	2.7 (13%)
Named Storms >2 Days	66.0	10.6 (16%)	12.6 (19%)	20.7 (31%)	3.1 (5%)	12.4 (19%)	6.6 (10%)
Named Storm Days	409.9	69.4 (17%)	74.5 (18%)	134.4 (33%)	16.5 (4%)	76.3 (18%)	38.6 (11%)
Hurricanes	47.9	7.2 (15%)	9.1 (19%)	16.1 (34%)	2.1 (4%)	8.8 (18%)	4.6 (10%)
Hurricane Days	169.6	27.0 (15%)	29.4 (19%)	65.6 (34%)	4.3 (3%)	28.6 (17%)	14.7 (9%)
Major Hurricanes	25.3	3.1 (12%)	4.7 (18%)	9.2 (36%)	1.0 (4%)	4.9 (19%)	2.4 (10%)
Major Hurricane Days	58.0	7.2 (12%)	9.8 (17%)	24.9 (43%)	1.5 (3%)	9.8 (17%)	4.8 (8%)
Cat. 4–5 Hurricanes	18.3	1.9 (11%)	3.3 (18%)	7.5 (41%)	0.7 (4%)	3.3 (18%)	1.6 (9%)
Cat. 4–5 Hurricane %	38%	27%	37%	47%	32%	37%	34%
Cat. 4–5 Days	32.3	3.9 (12%)	4.7 (15%)	15.7 (49%)	0.8 (3%)	4.8 (15%)	2.4 (7%)
ACE (10 <sup>4</sup> kt <sup>2</sup> )	789	122 (15%)	137 (17%)	302 (38%)	24 (3%)	135 (17%)	70 (9%)
30-kt RI Events	131.4	15.9 (12%)	24.9 (19%)	48.6 (37%)	4.7 (4%)	24.3 (18%)	13.1 (10%)
50-kt RI Events	26.5	2.4 (9%)	5.5 (21%)	10.1 (38%)	1.0 (4%)	4.9 (18%)	2.6 (10%)
30-kt RW Events	65.4	3.7 (6%)	19.5 (30%)	16.6 (25%)	0.9 (1%)	16.9 (26%)	7.8 (12%)
50-kt RW Events	7.5	0.3 (4%)	2.0 (27%)	1.8 (24%)	0.1 (1%)	2.3 (31%)	1.1 (15%)
Damage (Billions USD)	99.3	61.2 (62%)	1.0 (1%)	30.4 (31%)	5.4 (5%)	0.4 (<1%)	0.7 (1%)

**Table S2.** As in Table S1 but for per-decade linear trends. Category 4-5 hurricane percentage linear trends are not displayed for the North Indian Ocean due to limited per-year hurricane formations. Trends significant at the 5% level are highlighted in bold-face, while trends significant at the 10% level are italicized.

TC Metric	Globe	North Atlantic	Eastern North Pacific	Western North Pacific	North Indian	South Indian	South Pacific
Named Storms	1.0	<b>2.7</b>	1.1	<b>-1.8</b>	0.3	-0.8	-0.5
Named Storms ≤2 Days	<b>3.0</b>	<b>1.0</b>	<b>1.3</b>	0.4	0.1	-0.2	0.4
Named Storms >2 Days	-2.0	<b>1.8</b>	-0.2	<b>-2.3</b>	0.2	-0.6	-1.0
Named Storm Days	-27.3	9.2	-1.2	<b>-22.2</b>	1.4	<b>-9.4</b>	-5.0
Hurricanes	-2.1	0.7	-0.2	<b>-2.0</b>	0.4	-0.3	-0.5
Hurricane Days	<b>-20.3</b>	0.7	-3.5	<b>-12.6</b>	<b>1.5</b>	<b>-4.4</b>	-2.1
Major Hurricanes	0.3	0.5	0.0	-0.2	0.3	-0.2	-0.1
Major Hurricane Days	-4.8	1.2	-1.1	-3.9	0.5	-1.0	-0.4
Cat. 4–5 Hurricanes	0.7	0.5	0.2	-0.1	0.1	0.0	0.0
Cat. 4–5 Hurricane %	3%	5%	3%	4%	---	2%	4%
Cat. 4–5 Days	-2.5	0.7	-0.7	-2.2	0.3	-0.6	0.0
ACE	-66	14	-10	<b>-50</b>	5	-18	-8
30-kt RI Events	2.5	4.0	0.8	-1.8	0.8	-0.8	-0.5
50-kt RI Events	<b>5.8</b>	0.6	0.9	2.1	<b>0.7</b>	1.4	0.1
30-kt RW Events	0.9	0.8	0.0	-1.1	<b>1.1</b>	0.4	-0.4
50-kt RW Events	1.1	0.1	0.3	-0.2	0.2	0.9	-0.2
Damage (Billions USD)	<b>43.7</b>	31.0	0.0	<b>7.5</b>	<b>4.5</b>	0.4	<b>0.4</b>