CORRIGENDUM

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This corrigendum is to report two known errors in Knaff et al. (2014) entitled "An objective satellite-based tropical cyclone size climatology." Both errors are in equations, namely Eqs. (2) and (3).

To remind the reader, Eq. (2) uses a satellite-based estimate of the tangential wind at 500 km (V500) to estimate tropical cyclone (TC) size or R5, which is defined as the radius of where the TC wind field is indistinguishable from the background flow in a climatological environment. The error in Eq. (2) is related to parameter constants used to estimate R5 from V500:

$$\mathrm{R5} = \left[\overline{\mathrm{R5}} + (\mathrm{V500} - \mathrm{V500c})\frac{500}{\mathrm{V500c} - \mathrm{V1000c}}\right], \tag{2}$$

In our paper, the climatological values of the V500 (V500c) and of the tangential wind at 1000 km (V1000c) are needed to estimate R5. An error was introduced by incorrectly estimating the term V1000c. As stated in our paper, V1000c was incorrectly estimated by multiplying the average vorticity (r = 0–1000 km), ζ_{1000}, by the radius, that is V1000c = $r\zeta_{1000}$. This relationship results in V1000c estimates that are a factor of 2 too large. The correct estimate of V1000c should have been calculated using the relationship V1000c = $r\zeta_{1000}/2.0$. As a result Eq. (2) should have the following parameter constants: $\overline{\mathrm{R5}}$ = 734 km, V1000c = 1.12 m s^{-1}, and V500c = 5.05 m s^{-1}. This change to the scaling results in incorrect statistics being listed in Tables 1, 3, 4, and 5 and errors in the distributions shown in Fig. 4. The incorrect scaling also results in incorrect (or biased) y-axis values for life cycle composites shown in Fig. 5 and for long-term trend results shown in Fig. 9. The revised tables and a revised Fig. 4 are provided here. However, since the important aspects of life cycle behavior/evolution of R5, shown in Fig. 5, and the long-term trends, shown in Fig. 9, are well portrayed, though biased, using the original R5 values, corrected versions of those figures are not provided in this corrigendum. Note that the original R5 values are biased ~33% too large.

A second error involves Eq. (3), which should be in terms of V500 and not R5. Thus the proper equations should be as follows:

$$\underline{\mathrm{R34}} = -98.63 + 1.33V_{\max} + 28.19V500. \tag{3}$$

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We sincerely apologize for our mistakes and hope this corrigendum does not reflect poorly on the paper's overall quality. It is important to note that the conclusions about where small and large TCs form, how TC size changes as a function of initial size, intensity evolution, and poleward displacement, and the trends in TC size over the last 30 years still hold.

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REFERENCE

Knaff, J. A., S. P. Longmore, and D. A. Molenar, 2014: An objective satellite-based tropical cyclone size climatology. *J. Climate*, **27**, 455–476, doi:10.1175/JCLI-D-13-00096.1.

TABLE 1. General statistics related to the V500 and R5 estimates. V500 is estimated by (1) and R5 is estimated by (2). Units for V500 and R5 are m s^{-1} and DDLAT, respectively, where 1 DDLAT = 111 km.

	No. of cases	Mean	Standard deviation	Median	First quartile	Third quartile
V500 (m s^{-1})	122 989	6.56	2.09	6.61	5.09	8.08
R5 (DDLAT)	122 989	8.34	2.40	8.40	6.65	10.08

TABLE 3. Statistics associated with Fig. 4. Shown are the intensity category, the number of cases, the mean (R5), standard deviation [σ(R5)] and skew [Skew(R5)] of R5, intensity (V_{max}), and latitude. The units for R5 and V_{max} are DDLAT (where 1 DDLAT = 111 km) and kt, respectively.

North Atlantic						
Intensity category	Cases	R5	σ(R5)	Skew(R5)	V_{max}	Latitude
Tropical storms	10 900	8.9	2.35	0.68	46.2	28.0
Minor hurricanes	4802	9.9	1.95	−0.09	76.3	28.2
Major hurricanes	1649	10.2	1.66	−0.21	115.1	22.1
Eastern North Pacific						
Intensity category	Cases	R5	σ(R5)	Skew(R5)	V_{max}	Latitude
Tropical storms	11 429	7.0	1.91	0.24	45.6	16.9
Minor hurricanes	5779	7.8	1.90	0.00	77.5	17.7
Major hurricanes	2790	8.4	1.83	−0.04	113.9	16.4
Western North Pacific						
Intensity category	Cases	R5	σ(R5)	Skew(R5)	V_{max}	Latitude
Tropical storms	17 141	8.9	1.96	−0.35	46.5	20.3
Minor hurricanes	9910	10.2	1.76	−0.38	78.0	21.4
Major hurricanes	5472	11.0	1.47	−0.50	117.4	19.6
North Indian Ocean						
Intensity category	Cases	R5	σ(R5)	Skew(R5)	V_{max}	Latitude
Tropical storms	2457	8.9	2.51	−0.47	43.8	14.3
Minor hurricanes	395	10.1	2.24	−1.01	75.4	15.7
Major hurricanes	212	10.8	1.47	−0.09	114.2	18.2
Southern Hemisphere						
Intensity category	Cases	R5	σ(R5)	Skew(R5)	V_{max}	Latitude
Tropical storms	18 178	8.6	2.06	−0.09	45.0	−17.3
Minor hurricanes	6857	9.6	1.95	−0.30	77.3	−17.6
Major hurricanes	3140	10.1	1.87	−0.63	112.4	−16.6

TABLE 4. Statistics associated with the upper and lower quartiles of TC size (R5) for minor and major hurricane intensity TCs at the time of first maximum lifetime intensity shown in Fig. 6. The number of cases (No.), the mean, and the standard deviation (σ) associated with each quartile are listed. Means and standard deviations have units of DDLAT, where 1 DDLAT = 111 km.

	Upper quartile (large)			Lower quartile (small)		
	No.	Mean	σ	No.	Mean	σ
Minor hurricanes	190	12.07	0.81	190	6.58	1.16
Major hurricanes	185	12.62	0.61	185	7.56	0.95

TABLE 5. Statistics associated with the basin-specific upper and lower quartiles of TC size (R5) for minor and major hurricane intensity TCs at the time of first maximum lifetime intensity shown in Fig. 7. The number of cases (No.), the mean, and the standard deviation (σ) associated with each quartile are provided. Means and standard deviations have units of DDLAT, where 1 DDLAT = 111 km.

North Atlantic						
	Upper quartile (large)			Lower quartile (small)		
	No.	Mean	σ	No.	Mean	σ
Minor hurricanes	33	12.09	0.81	33	6.94	1.10
Major hurricanes	23	12.23	0.58	23	8.10	0.64
Eastern North Pacific						
	Upper quartile (large)			Lower quartile (small)		
	No.	Mean	σ	No.	Mean	σ
Minor hurricanes	39	10.21	0.68	39	5.16	0.88
Major hurricanes	40	10.77	1.45	40	8.82	0.79
Western North Pacific						
	Upper quartile (large)			Lower quartile (small)		
	No.	Mean	σ	No.	Mean	σ
Minor hurricanes	59	12.47	0.79	59	7.88	1.19
Major hurricanes	67	12.92	0.55	67	8.79	1.03
Southern Hemisphere						
	Upper quartile (large)			Lower quartile (small)		
	No.	Mean	σ	No.	Mean	σ
Minor hurricanes	53	12.04	0.65	53	6.69	1.11
Major hurricanes	51	12.80	0.55	51	7.84	1.31

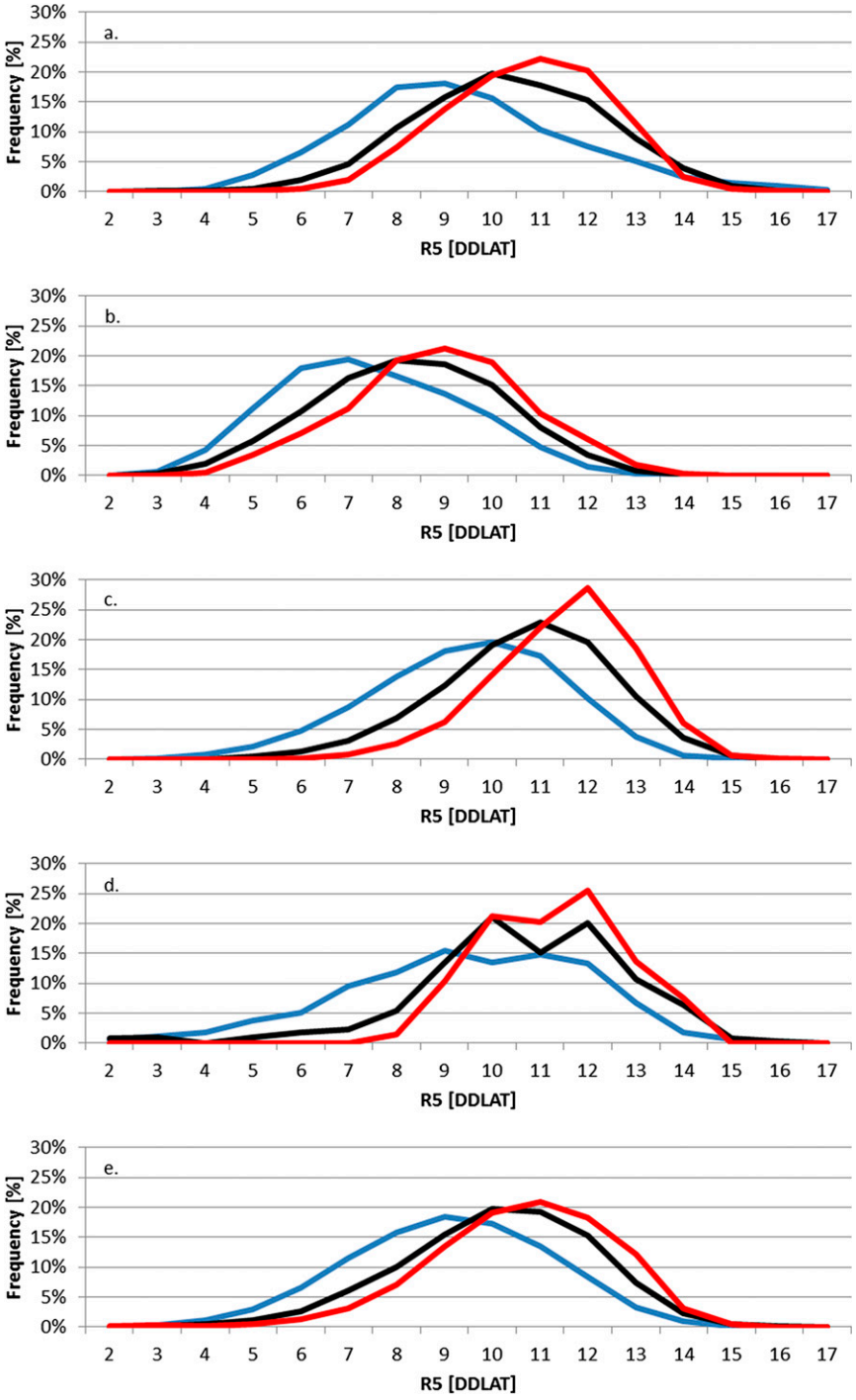

FIG. 4. Frequency distributions of TC size (R5) for the (a) North Atlantic, (b) eastern North Pacific, (c) western North Pacific, (d) north Indian Ocean, and (e) Southern Hemisphere tropical cyclone basins. Blue lines, black lines, and red lines are associated with tropical storm, minor hurricane, and major hurricane intensities respectively as indicated in the key (see text for additional information). Units of R5 are distance in degrees latitude (DDLAT, where 1 DDLAT = 111 km).