

## Average NHC Atlantic Track Forecast Errors (n mi) All Tropical Cyclones<sup>1, 2</sup>

Year	0 h		12 h		24 h		36 h		48 h		72 h		96 h <sup>3</sup>		120 h <sup>3</sup>	
	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N
1989	18.2	257	51.5	252	95.9	237	143.3	214	195.9	188	293.1	152				
1990	22.2	372	59.8	346	107.5	317	154.4	285	204.6	255	312.3	205				
1991	16.9	131	57.6	114	107.2	92	145.5	72	186.3	58	317.2	38				
1992	13.5	219	47.2	205	91.8	186	138.1	168	186.6	150	294.3	118				
1993	16.6	185	52.1	174	99.9	158	147.3	136	183.3	118	247.3	87				
1994	13.7	177	49.3	161	92.8	141	139.2	123	212.1	100	395.6	79				
1995	13.1	571	47.9	541	89.3	505	128.4	469	166.2	429	244.4	359				
1996	12.6	383	45.5	365	76.8	343	106.2	321	133.8	294	199.2	247				
1997	12.4	127	45.3	112	83.8	96	119.5	83	138.5	71	184.3	59				
1998	13.9	387	48.2	369	84.9	345	118.4	321	148.5	291	208.5	241				
1999	11.2	397	38.9	371	72.1	347	105.1	321	138.8	294	205.0	242				
2000	10.7	333	41.4	304	74.1	270	105.5	239	137.5	211	229.1	165				
2001	7.9	338	43.9	301	76.7	262	108.0	237	142.4	217	216.9	170	281.9	128	372	97
2002	7.3	312	41.4	287	72.2	257	103.7	228	137.5	201	200.1	166	282.2	137	375.8	119
2003	7.8	394	37.1	362	64.4	327	93.2	291	123.1	256	160.8	197	190.6	156	222.6	125
2004	6.3	413	32.6	389	57.5	363	79.7	335	101.2	307	151.4	267	212.7	228	295.4	194
2005	7.5	642	35.1	591	59.7	534	84.2	478	106.4	429	156.2	338	219.8	264	285.6	207
2006	9.5	241	29.7	223	50.8	205	71.9	187	97.0	169	148.7	132	205.5	100	265.3	78
2007	7.9	208	32.8	177	51.2	145	70.7	116	91.9	93	146.0	62	167.2	39	258.4	23
2008	5.7	373	27.7	346	48.3	318	68.6	288	88.2	261	126.9	221	159.8	177	191.8	149
2009	9.6	144	30.1	122	44.5	98	61.8	76	73.2	61	119.2	49	197.9	38	292.3	22
2010	11.2	404	33.7	363	52.9	323	70.2	287	88.1	255	129.4	198	166.0	149	186.7	115
2011	11.0	383	28.2	339	43.4	297	57.1	260	70.8	226	109.7	176	166.6	140	244.7	113
2012	8.2	444	24.6	404	39.7	364	53.6	324	68.8	289	100.6	232	142.8	188	194.4	148
2013	9.3	196	28.5	162	49.4	131	71.6	107	102.5	83	141.3	40	165.5	22	165.2	19

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	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N	Error	N
2014	6.6	159	25.7	139	38.3	120	51.4	104	64.8	89	100.4	66	161.8	46	270.2	32
2015	8.9	222	25.4	202	41.1	182	57.1	159	77.4	136	125.2	96	188.0	67	241.4	49
2016	7.3	386	24.3	354	36.5	322	47.7	290	61.8	258	88.8	204	133.1	161	168.2	131
2017	6.6	410	21.1	377	31.9	342	42.9	310	56.4	280	87.7	227	113.5	185	155.7	156
2018	7.3	390	24.2	354	35.2	318	45.4	286	60.1	254	100.6	202	144.7	160	185.5	127
2019	8.1	314	24.7	279	40.8	245	58.0	213	74.7	187	88.4	136	115.4	104	148.3	78
2020	7.0	580	23.7	522	35.8	465	50.1	414	64.9	366	79.9	318	133.0	192	189.6	131
2021	8.0	394	24.9	351	35.3	309	43.5	272	53.3	244	77.9	189	117.8	151	175.9	115
2022	5.8	255	21.1	227	31.3	200	41.6	172	52.5	151	78.1	114	98.7	80	126.2	56
2023	7.6	446	24.5	404	38.5	362	52.2	324	68.8	292	111.0	234	169.2	187	248.1	150
1990-99	14.5	2949	48.5	2758	88.4	2530	126.5	2299	164.2	2060	245.5	1675				
2000-09 <sup>3</sup>	7.8	3398	35.5	3102	61.2	2779	86.7	2475	112.6	2205	167.2	1767	216.2	1267	282.7	1014
2010-19	8.5	3294	26.0	2960	40.5	2633	54.3	2331	70.2	2050	103.4	1574	144.2	1222	189.0	968
2020-23	7.2	1686	23.7	1513	35.7	1343	47.8	1188	61.4	1056	94.3	812	135.8	610	197.7	452

Notes:

1. Verification based on NHC best track database as of 5/28/24.
2. Verification sample is homogeneous with best-track 5-day CLIPER, and includes subtropical cyclones.
3. 96- and 120-h forecasts began in 2001, but were not publicly released until 2003.