



NATIONAL HURRICANE CENTER

TROPICAL CYCLONE FORECAST VERIFICATION 1975



THE FOLLOWING TABLES CONTAIN VERIFICATION STATISTICS FOR THE 1975 TROPICAL CYCLONE FORECASTS. THE FIRST TABLE CONTAINS ERROR SUMMARIES FOR THE NATIONAL HURRICANE CENTER ADVISORY FORECASTS (DESIGNATED 'OFFICIAL') TOGETHER WITH THOSE FOR ALL OPERATIONALLY AVAILABLE OBJECTIVE TECHNIQUES. THE SECOND AND THIRD TABLES CONTAIN HOMOGENEOUS SAMPLES OF VARIOUS GROUPINGS OF THE OFFICIAL FORECASTS AND OBJECTIVE TECHNIQUES. THE FOURTH TABLE IS A SUMMARY OF MAXIMUM WIND FORECASTS.

THE FORECAST ERRORS, EXPRESSED IN NAUTICAL MILES, ARE COMPUTED IN THE FOLLOWING WAY. THE MAGNITUDE OF THE VECTOR DIFFERENCE (ALONG A GREAT CIRCLE) BETWEEN THE FORECAST DISPLACEMENT FOR A GIVEN TIME PERIOD AND THE ACTUAL DISPLACEMENT TAKEN FROM THE 'BEST TRACK' IS COMPUTED FOR EACH FORECAST. ALL FORECASTS FOR WHICH A GIVEN CYCLONE MAINTAINS TROPICAL STORM OR HURRICANE INTENSITY ARE VERIFIED. THESE RESULTS ARE THEN AVERAGED AND TABULATED.

THE ERRORS IN THE INITIAL POSITIONING OF STORMS ARE ALSO COMPUTED. FOR A GIVEN FORECAST, THIS IS SIMPLY THE MAGNITUDE OF THE GREAT CIRCLE DISTANCE BETWEEN THE OPERATIONAL INITIAL POSITION AND THE CORRESPONDING 'BEST TRACK' INITIAL POSITION.

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ALL FORECASTS

FORECAST TYPE	INITIAL POSITION ERROR	FORECAST DISPLACEMENT ERROR (n.mi.)			
		12HR	24HR	48HR	72HR
(number of cases in parentheses)					
OFFICIAL	16 (141)	56 (141)	114 (122)	256 (92)	402 (68)
Mean 1970-1974	21 (513)		102 (435)	243 (297)	405 (207)
HURRAN	17 (91)	59 (91)	132 (83)	254 (63)	348 (50)
Mean 1970-1974			130 (228)	291 (147)	417 (100)
NHC67	15 (122)	58 (122)	132 (106)	342 (78)	498 (61)
Mean 1970-1974			108 (407)	290 (290)	507 (203)
SANBAR	15 (71)	62 (71)	119 (62)	256 (46)	383 (35)
Mean 1970-1974			119 (192)	250 (138)	377 (97)
NHC72	16 (143)	58 (143)	123 (125)	296 (93)	410 (72)
NHC73	15 (61)	51 (61)	116 (53)	277 (39)	467 (31)
CLIPER	16 (146)	57 (146)	124 (128)	250 (96)	336 (74)

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HOMOGENEOUS SAMPLE

FORECAST TYPE	INITIAL POSITION ERROR	FORECAST DISPLACEMENT ERROR (N.MI.)			
		12HR	24HR	48HR	72HR
(NUMBER OF CASES IN PARENTHESES)					
OFFICIAL	16 (38)	66 (38)	129 (34)	309 (25)	422 (19)
NHC67		60	134	319	410
NHC72		68	144	334	420
CLIPER		63	137	297	332
NHC73		53	121	310	506
SANBAR		72	134	286	367
HURRAN		62	145	292	312

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HOMOGENEOUS SAMPLE

FORECAST TYPE	INITIAL POSITION ERROR	FORECAST DISPLACEMENT ERROR (N.MI.)		
		12HR	24HR	48HR
		(NUMBER OF CASES IN PARENTHESES)		

OFFICIAL	16 (55)	61 (54)	27 (45)	282 (32)	395 (26)
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NHC67		56	135	355	
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NHC72		61	133	330	
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SANBAR		65	127	268	
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CLIPER		60	132	274	
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NHC73		52	116	276	
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 HOMOGENEOUS SAMPLE

FORECAST TYPE	INITIAL POSITION ERROR	FORECAST DISPLACEMENT ERROR (N.MI.)			
		12HR	24HR	48HR	
(NUMBER OF CASES IN PARENTHESES)					
OFFICIAL	15 (118)	59 (115)	122 (98)	270 (72)	410 (55)
NHC67		59	134	336	
NHC72		61	133	316	
CLIPER		62	132	264	

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OFFICIAL MAXIMUM WINDS FORECASTS

	INITIAL	12 HOUR	24 HOUR	48 HOUR	72 HOUR
MEAN ERROR (KTS)	+2	0	-2	-1	-1
MEAN ABSOLUTE ERROR	5	9	15	19	22
STANDARD ERROR	7	12	19	23	27
NUMBER OF CASES	141	141	120	92	69

No of Cases		Average Errors 1972-1975 (Inclusive)					
		2 YHR		4 YHR		7 YHR	
HCS72	1975	123	(125)	256	(93)	410	(72)
	1974	89	(87)	138	(63)	372	(43)
	1973	114	(82)	255	(55)	350	(27)
	1972	143	(47)	381	(34)	620	(24)
	<u>1972-1975</u>	115	(344)	208	(245)	422	(166)
HCS73	1975	116	(53)	277	(39)	457	(31)
	1974	102	(45)	161	(31)	226	(21)
	1973	87	(37)	220	(25)	353	(11)
	1972	143	(49)	381	(34)	620	(24)
	<u>1972-1975</u>	114	(181)	267	(129)	438	(87)
GLIPER	1975	124	(128)	250	(50)	336	(74)
	1974	104	(87)	193	(63)	298	(42)
	1973	131	(83)	259	(55)	385	(27)
	1972	146	(51)	393	(26)	606	(27)
	<u>1972-1975</u>	124	(349)	267	(250)	377	(171)

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NUMBER OF CASES

	12HR	24HR	36HR	48HR	72HR
OFFICIAL	141	122	=	71	68
NHC 67	122	106	91	78	61
NHC 72	143	125	108	93	72
HURRAN	91	83	73	63	50
NHC 73	61	53	46	39	31
SANBAR	71	62	54	46	35
CLIPER	146	128	111	96	74

FORECAST DISPLACEMENT ERROR (N. mi)

550
500
450
400
350
300
250
200
150
100
50

0 12 24 36 48 72

F R C H P E R I O D S

