



U.S. DEPARTMENT OF COMMERCE
 ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
 WEATHER BUREAU
 IN COOPERATION WITH GREATER JACKSONVILLE CHAMBER OF COMMERCE
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 31

Revised

LATITUDE 34° 50' N
 LONGITUDE 77° 18' W
 ELEV. (GROUND) 44 Ft.

CLIMATOLOGICAL SUMMARY

STATION HOFMANN FOREST, N. C.

MEANS AND EXTREMES FOR PERIOD 1946 - 1966

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)						Mean number of days						Month	
	Means			Extremes						Mean	Greatest daily	Year	Snow, Sleet			Precip. .10 inch or more	Temperatures						
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily		Year	90° and above	Max.		Min.		
																			32° and below	32° and below	0° and below		0° and below
(a)	21	21	21	21		21		21	21	21		21	21		21	21	21	21	21				
Jan.	56.9	32.0	44.5	79	1952	8	1963	636	3.57	2.10	1946	0.7	7.5	1965	5.5	1965	7	0	*	18	0	Jan.	
Feb.	59.6	32.0	45.8	81	1962	2	1965	538	4.00	1.91	1960	0.6	6.0	1951	3.0	1951	7	0	*	15	0	Feb.	
Mar.	63.8	38.2	51.0	93	1948	11	1960	440	3.94	2.42	1959	0.5	11.5	1960	4.5	1960	7	*	0	12	0	Mar.	
Apr.	73.7	45.7	59.7	91	1960	19	1950	174	2.72	3.55	1964	0	0	0	0	0	5	*	0	4	0	Apr.	
May	81.3	54.1	67.7	97	1953	24	1963	31	4.89	2.99	1952	0	0	0	0	0	8	2	0	*	0	May	
June	85.8	61.2	73.5	103	1954	38	1946	0	6.06	4.51	1962	0	0	0	0	0	8	7	0	0	0	June	
July	88.0	66.0	77.0	103	1954	47	1951+	0	7.75	4.80	1962	0	0	0	0	0	10	12	0	0	0	July	
Aug.	87.7	65.1	76.4	98	1957	46	1957	0	6.78	9.30	1955	0	0	0	0	0	9	11	0	0	0	Aug.	
Sep.	82.8	60.2	71.5	99	1954	32	1950	20	6.55	15.25	1955	0	0	0	0	0	7	3	0	*	0	Sep.	
Oct.	73.1	47.5	60.3	95	1954	16	1962	170	3.21	5.22	1950	0	0	0	0	0	5	*	0	3	0	Oct.	
Nov.	66.9	38.5	52.7	84	1961+	10	1951	369	3.55	2.24	1947	0	0	0	0	0	6	0	0	10	0	Nov.	
Dec.	58.0	31.4	44.7	81	1951	5	1962	629	3.17	2.63	1964	0.4	8.0	1958	8.0	1958	6	0	*	19	0	Dec.	
Year	73.1	47.7	60.4	103	1954	2	1965	3007	56.19	15.25	1955	2.2	11.5	1960	8.0	1958	85	36	1	81	0	Year	

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(a) Average length of record years.

† Trace, an amount too small to measure.

OCT 20 1967
 ** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

E. S. S. A.

CLIMATE OF JACKSONVILLE, N. C., AND ONSLOW COUNTY

JACKSONVILLE is the principal city of Onslow County, and is located near the center of the County. The entire southeastern boundary of Onslow County lies on the Atlantic Ocean. The length of the ocean front is about thirty miles, consisting of a series of narrow, elongated islands or banks, separated from the mainland by equally narrow sounds through which run the Intracoastal Waterway. The New River flows from the northwest corner of the County into the Atlantic Ocean, dividing the County roughly in half. The land slopes very gently upward from a few feet above sea level on the banks and at the mainland shoreline, to near 100 feet at the highest points along the inland boundaries. The city of Jacksonville is situated near the New River, at an elevation between twenty and thirty feet.

Large bodies of water react slowly to changes in temperature, and the Ocean is cooler in summer and warmer in winter than the land. Hence extremes of both high and low temperature tend to be moderated in the Jacksonville area by the proximity of the Ocean. Some protection from extreme winter weather is afforded to all of eastern North Carolina by the mountain barrier extending northeast-southwest across the western part of the State. Hence the temperature climate at Jacksonville is less rigorous than that of areas of the same latitude in the interior of the United States.

Most of the tabular data contained in this summary are taken from weather observations at Hofmann Forest, about ten miles northeast of Jacksonville. Most of this information represents reasonably well the weather of Onslow County. There are some differences, however, between weather along the immediate coast and that inland, and also some differences due to local conditions. The most important difference between the weather observed at Hofmann Forest and that at Jacksonville is in the lowest temperatures on clear, calm, cold mornings. Under these conditions, differences in local exposure often produce temperatures five or more degrees colder at the Forest than those in Jacksonville. Hence the record low temperatures tabulated above are several degrees colder than would be expected within Jacksonville and in the immediate vicinity on the same occasions. Similarly, the mean daily minimum temperatures are estimated to be somewhat higher in Jacksonville than those computed from observations at Hofmann Forest, and the heating requirements for an average winter slightly less than those indicated by the mean degree day tabulation.

The average length of the freeze-free growing season in Jacksonville is about 225 days. The average date of last occurrence in spring of a temperature as low as 32°F is March 27, and the earliest occurrence in fall averages around November 9. For a 28°F temperature, the comparable dates are March 12 and November 19; for 24°F, March 1 and December 1. In some years the temperature does not go as low as 20°F more than once or twice at Hofmann Forest, and probably not at all in the warmest winters at Jacksonville.

Average precipitation is well distributed throughout the year, with the heaviest monthly amounts in June, July, August and September. This is also the warmest season, and the time when growing plants, men, animals and machines make the greatest demand on water supplies. Precipitation is lightest in late fall, winter and early spring.

Winter precipitation is usually associated with large moving low pressure systems, while summer rainfall may be largely from afternoon and evening thundershowers. When heavy rain occurs in autumn it is often the result of offshore tropical storms. Once in several years such a storm comes far enough inland to cause a day or two of very heavy rain.

Practically all the precipitation falls as rain. Although a few flakes of snow are seen nearly every winter, measurable amounts occur only about half the winters; the little snow that does fall usually melts within a short time. Hail is very rare.

Prevailing winds at Jacksonville blow from north or northeast in fall and winter, and from south or southwest in spring and summer. Winds are from one of these opposing directions a majority of the time, but may blow from any direction at any season or time of day. The average wind speed is about nine miles per hour, with the highest speeds at midday or early afternoon and the quietest periods late at night. Winds above twenty miles per hour are recorded less than one percent of the time, and the highest recorded at any time in an average year, is about forty miles per hour. Gusts higher than this are rare, occurring infrequently with an unusually heavy thunderstorm or a tropical disturbance. Tornadoes are practically unknown in the area, but a waterspout is occasionally seen from the coast.

The sun shines about half the daylight hours in winter, and nearly two thirds in late spring and early summer. Average around-the-clock relative humidity is about 70 percent, being lower during most of the daylight hours, and higher late at night. At early afternoon the relative humidity averages between fifty and sixty percent.

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946	47.0	48.0	57.5	59.6	67.6	73.2	76.0	74.8	71.8	63.0	57.4	48.4	62.0
1947	50.5	39.2	44.0	61.4	68.1	74.4	74.2	75.8	73.3	65.8	50.8	43.6	60.0
1948	38.2	45.2	56.4	62.4	66.6	74.6	78.4	75.0	70.8	56.4	58.8	48.5	61.0
1949	52.6	52.4	51.7	59.3	67.0	74.9	78.4	77.3	71.1	65.4	50.5	48.0	62.4
1950	55.8	48.9	50.7	56.8	67.8	73.9	76.8	74.3	71.2	64.3	50.6	39.7	60.9
1951	46.2	46.0	50.8	58.5	65.1	74.8	77.2	77.5	71.3	65.3	50.1	48.2	60.9
1952	49.9	46.8	52.5	60.5	69.4	78.9	79.5	78.8	72.1	58.2	52.2	43.6	61.8
1953	49.5	49.5	53.5	60.5	73.3	72.7	78.2	76.3	71.3	62.9	51.0	47.5	62.2
1954	45.5	48.0	51.2	61.2	64.2	75.4	77.6	77.9	72.7	62.3	50.5	41.7	60.7
1955	41.1	45.3	57.0	63.1	68.4	69.8	78.7	77.5	74.1	61.2	51.6	40.8	60.7
1956	39.8	50.6	51.2	59.0	67.7	74.7	78.2	76.5	70.2	65.4	51.3	52.7	61.5
1957	44.9	50.4	50.4	61.5	68.4	74.3	75.7	75.2	73.8	57.5	53.8	47.7	61.1
1958	37.3	37.6	46.4	59.7	66.4	72.6	78.9	77.8	70.6	60.0	55.4	40.6	58.6
1959	42.6	47.2	50.5	61.1	68.1	72.6	76.3	76.6	72.1	64.5	52.9	44.8	60.8
1960	44.1	43.9	40.3	62.1	67.7	73.9	76.0	77.3	71.4	62.0	52.9	38.4	59.2
1961	38.6	48.5	55.7	54.7	63.9	73.1	77.9	76.7	73.1	58.2	53.4	45.8	60.0
1962	43.9	48.0	48.2	57.5	70.9	71.9	75.8	74.8	68.6	62.7	50.1	41.9	59.5
1963	39.4	40.7	54.4	60.1	65.3	72.3	74.5	74.7	67.1	59.7	51.9	37.0	58.1
1964	43.7	41.3	51.7	59.8	67.5	73.4	74.4	73.9	70.4	57.8	55.5	48.8	59.9
1965	44.5	41.7	46.4	57.9	71.1	72.4	77.8	78.8	72.9	60.7	54.7	45.8	60.4
1966	39.9	44.8	51.0	57.7	66.6	70.1	77.6	77.0	72.1	62.7	52.8	45.4	59.8

STATION HISTORY

A weather observation station was established at Deppe Tower in Hofmann Forest about ten miles northeast of Jacksonville late in 1945. Temperature and precipitation data listed in the tabulations on this Summary are taken from observations at the Hofmann Forest Station for the period 1946-1966. Modifications necessary to adapt this information to Jacksonville and immediate vicinity are discussed on the opposite side of this sheet.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946	3.69	3.16	2.14	1.72	9.54	6.01	24.12	7.08	9.87	3.47	2.74	2.54	76.08
1947	3.85	.78	5.44	3.20	1.53	3.00	6.94	6.29	9.92	6.04	5.14	4.59	56.72
1948	6.30	6.62	4.07	1.89	5.36	6.27	6.27	4.03	4.16	2.91	9.12	5.88	62.37
1949	1.34	3.45	2.06	3.75	4.02	3.07	6.38	11.83	5.09	.85	4.49	2.16	48.49
1950	1.52	1.93	3.33	2.49	7.60	7.93	14.10	1.90	2.86	7.20	1.17	2.52	54.55
1951	.71	2.42	3.44	2.73	2.04	4.63	5.41	3.33	2.46	1.44	3.97	4.14	36.72
1952	2.13	6.08	4.93	3.32	6.68	2.55	5.53	6.06	5.33	2.02	6.24	2.66	53.53
1953	3.31	4.76	3.61	1.31	2.95	8.15	2.90	7.28	6.73	.74	4.62	3.45	51.81
1954	2.55	1.47	3.23	2.90	3.40	1.03	5.99	5.95	3.53	1.63	2.07	4.85	38.60
1955	4.12	2.09	1.82	1.60	3.72	6.52	8.76	24.79	25.47	2.65	2.75	1.66	85.95
1956	3.05	4.09	3.56	1.76	4.70	5.76	6.41	6.54	3.89	7.94	.83	1.50	50.03
1957	2.62	3.14	3.79	.72	3.96	10.79	2.74	4.67	10.37	1.74	7.01	4.55	56.10
1958	3.84	4.58	6.90	2.89	5.49	7.64	6.17	4.80	8.35	6.39	2.39	4.23	63.67
1959	1.97	4.68	7.23	3.42	2.61	3.36	9.57	4.73	4.29	4.29	3.76	4.32	54.89
1960	4.82	5.62	5.25	3.24	4.96	4.82	12.97	2.15	6.37	1.85	2.14	2.26	56.45
1961	2.33	4.67	4.44	5.67	6.42	11.14	5.30	4.72	4.00	.94	1.81	1.22	52.66
1962	4.13	2.67	4.43	4.00	3.54	13.36	8.44	8.54	4.89	1.50	5.23	1.86	62.59
1963	5.99	4.63	1.76	1.55	5.42	3.23	4.11	7.02	5.08	3.33	4.80	2.44	49.36
1964	6.92	6.51	1.73	5.10	5.71	3.23	8.42	6.28	7.40	7.49	1.37	3.80	63.96
1965	2.19	5.96	4.92	2.63	5.04	10.28	6.96	4.06	.79	1.92	1.38	.29	46.62
1966	7.53	4.76	4.53	1.21	8.03	5.09	10.54	10.23	6.29	1.14	1.60	3.55	64.50