

LOWEST MEASURED  
SEA-LEVEL PRESSURES OF RECORD  
IN THE NORTH ATLANTIC BASIN,  
1900-1979

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The following data summarizes the 19 lowest sea-level pressures of record that have been reliably observed in the North Atlantic Basin since 1900.

Increases in coastal populations, radar, aircraft observations, and the advent of meteorological satellites have led to increases in the number and duration of high quality central pressure measurements during the hurricane season.

Since the maximum sustained windspeeds in hurricanes are directly related to the minimum central pressure, and atmospheric pressure can be more frequently and accurately obtained, it was felt that an

historical determination of hurricane intensity/frequency relationships based on minimum central pressures would reliably assist in assessing the coastal hurricane risk.

The data listed pertain only to actual observed values, hence, computed values for the same or other hurricanes might significantly alter this listing.

In Figure 1, the lowest observed pressure during the season is plotted for the 31 year period from 1949 through 1979. On the basis of this short-term analysis, Atlantic hurricanes have occurred with frequency and intensity listed below:

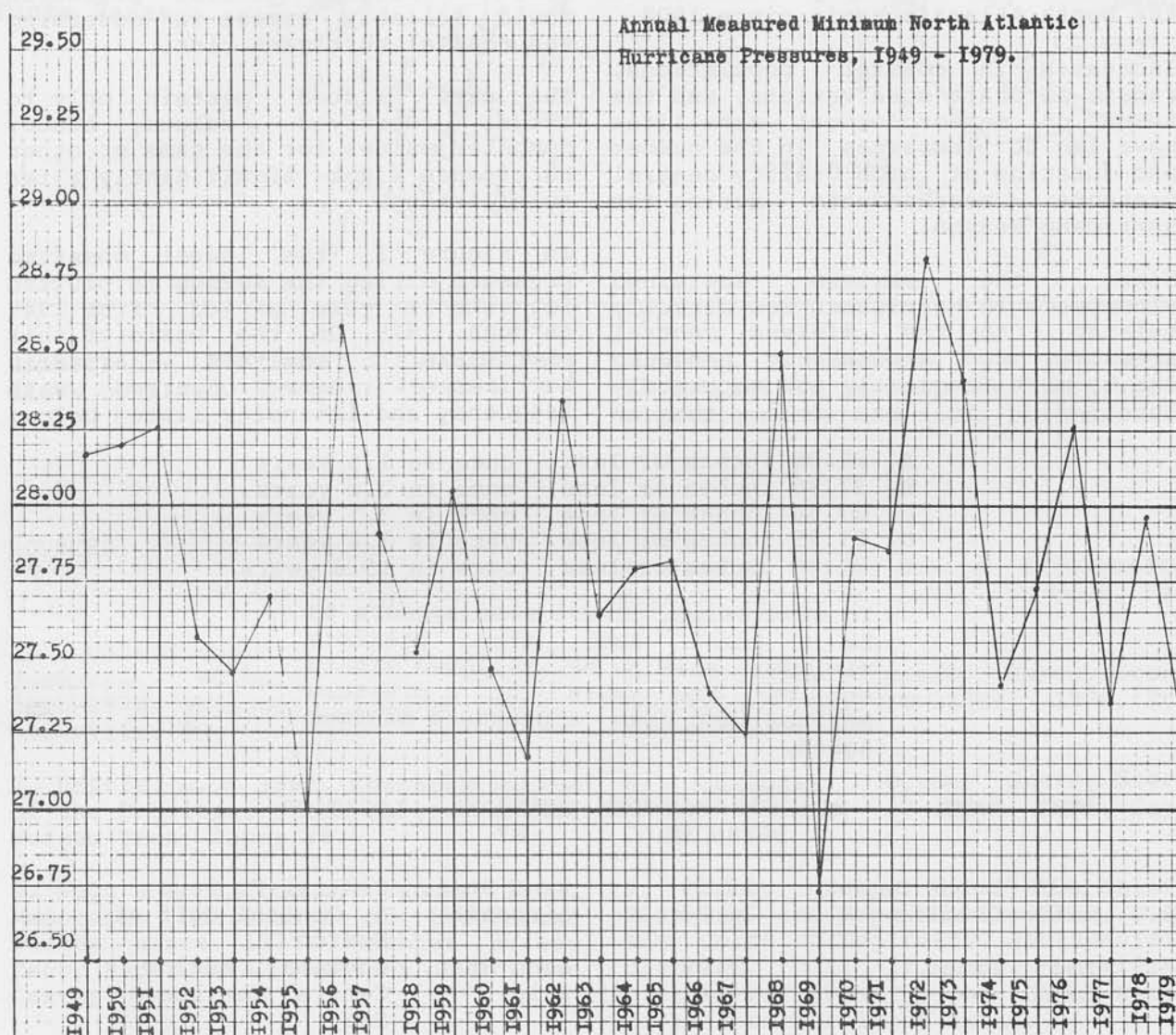
- A. 28.00 inches or less once in 1.5 years
- B. 27.75 inches or less once in 2.2 years
- C. 27.50 inches or less once in 3.1 years
- D. 27.25 inches or less once in 7.8 years
- E. 27.00 inches or less once in 15.5 years

In conclusion, there also appears to be a trend such that pressure minimums seem to be followed within one or two years by a pressure maximum, and then a pressure minimum again.

YEAR	NAME	MINIMUM OBSERVED PRESSURE	MEASURED BY	LOCATION
1935	"Labor Day"	26.35	Land Stat.	Central FL Keys
1969	Camille	26.73	Aircraft	N. Central Gulf of Mexico
1955	Janet	27.00	Land Stat.	Chetumal, Mexico
1932	-----	27.01	Ship	Central Caribbean Sea
1961	Hattie	27.17	Aircraft	NW Caribbean Sea
1924	-----	27.20	Land Stat.	Juitas Bay, Cuba
1967	Beulah	27.25	Aircraft	W. Gulf of Mexico
1979	David	27.29	Aircraft	S. of PR
1977	Anita	27.35	Aircraft	W. Gulf of Mexico
1919	-----	27.36	Ship	Near Dry Tortugas, FL
1961	Esther	27.37	Aircraft	SW Atlantic Ocean
1966	Inez	27.38	Aircraft	S. of PR
1933	-----	27.40	Ship	Central Caribbean Sea
1974	Carmen	27.41	Aircraft	NW Caribbean Sea

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YEAR	NAME	MINIMUM OBSERVED PRESSURE	MEASURED BY	LOCATION
1928	"Okeechobee"	27.43	Land Stat.	W. Palm Beach, FL
1953	Carol	27.45	Aircraft	S. Central Tropical Atlantic
1960	Donna	27.46	Aircraft	Central FL Keys
1933	-----	27.47	Ship	SE Bahamas
1961	Carla	27.49	Aircraft	NW Gulf of Mexico



ANNUAL MEASURED MINIMUM NORTH ATLANTIC HURRICANE PRESSURES 1949-1979.

(Editor's note: as of the 1980 hurricane season, we have a new entry for the second most intense North Atlantic hurricane on record. Reconnaissance aircraft penetrating the eye of Hurricane Allen found pressures as low as 899 mb/26.55 in.)