

Brownsville Climate & Hurricane Information

BROWNSVILLE CLIMATE

| Meteorological conditions | Data |
|--|---------------|
| Annual average temperature (°C) | 23.6 |
| Average temperature in the coldest months (°C) | 18.5 |
| Average temperature in the warmest months (°C) | 28.7 |
| Minimum temperature in the last 30 years (°C) | 10.8 |
| Maximum temperature in the last 30 years (°C) | 34.7 |
| Maximum monthly quantity precipitation (mm) | 150.3 |
| Minimum monthly quantity precipitation (mm) | 27.2 |
| Average annual quantity precipitation (mm) | 696.2 |
| Main annual airflow direction | Southeasterly |
| Average annual airflow speed (m/s) | 8.9 |
| Maximum annual airflow speed (m/s) | 13.4 |
| Minimum airflow speed in the last 30 years (m/s) | 4.4 |
| Maximum hibernal snow level (mm) | 2.54 |
| Average annual air-pressure | 749mm |
| Average time of sunlight | 12:29 hours |
| Percentage of sunny days (%) | 60% |
| Average relative degree of humidity (%) | 72% |
| Maximum relative degree of humidity (%) in May | 92% |
| Maximum relative degree of humidity (%) in December | 95% |
| Average annual number of thunder-storm and heavy falls of rain | 7.4 |

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|---|------|
| Wet-bulb thermometer's temperature (°C) | 17.4 |
| Dry-bulb thermometer's temperature (°C) | 18 |
| Dew point (°C) | 17 |

Source(s): NOAA National Weather Service Forecast Office (1981-2010); NOAA Quality Controlled Local Climatologically Data (2005-2014); NOAA National Weather Service (7 Day Forecast).

HURRICANE INFORMATION

This report provides an independent review of existing studies, data, and information that assess the relative threat of a hurricane or tropical storm impact on Brownsville, Texas, as compared to other locations along the U.S. Atlantic and Gulf of Mexico coastlines. The report additionally provides information on factors influencing this relative threat through a review of peer-reviewed literature and government agency reports (National Hurricane Center, National Climatic Data Center, etc.). A general review of inland hurricane patterns, such as rates of inland decay for historical storms, is presented for comparison of typical storm impacts for the two Metropolitan Statistical Areas (MSA's) in the Lower Rio Grande Valley (LRGV), namely the McAllen – Mission – Edinburg MSA and the Brownsville – Harlingen MSA. Finally, due to its critical role in flood protection for both MSA's, a brief discussion of the Lower Rio Grande Flood Control Project (LRGFCEP) is included.

The report was prepared in response to a request by the Brownsville Economic Development Council (BEDC) to investigate the threat of hurricane impact in Brownsville relative to other coastal areas. Additional requested information included a discussion of how storm threat varies with inland distance – particularly relative to the observed and expected impacts between the two MSA's in the LRGV. The perceived threat of damaging hurricane impacts often either underestimates or overestimates the true threat in nearly every geographic area. The perception often is as cyclical as the pattern of hurricanes themselves, with overestimates of threats over higher frequency periods and underestimates during hurricane “drought” periods for a region. This report attempts to present an unbiased review of established literature and technical findings to provide a statistically valid “best perception” for the threat of an impact relative to other areas mostly in terms of return periods (period of time between events).