The purpose of this research was to analyze the thermodynamic parameters behind multi-cell thunderstorms with the aim of developing forecasting conditions for aviators.

Contribute to the reduction of accidents, increase passenger safety, increase airport safety, develop an active safety approach to weather and improve air traffic control safety.

This study was conducted at the National Weather Center located at the Norman Manley International Airport in Kingston Jamaica West Indies. The study attempts to verify the thermodynamics, current forecasting, and future forecasting method for wet microburst in multi-cell thunderstorms for general aviation pilots. The study was conducted on historical data obtained for August to November for a five year period (2003-2008) for the Norman Manley Aerodrome. At the aerodrome an Upper Air department launches a balloon sounding that contains weather instruments and a transmitter that feeds information to the computer. The raw data is then plotted in terms of the temperature and dew point this diagram is called an atmospheric sounding.

For microburst potential days, winds greater than 25 knots were selected then analyzed. The raw sounding data from the 00Z and 12Z runs were used to analyze the thermodynamic factors from the days selected. The Wet Microburst Severity Index was used to obtain the value to the amount of gust expected inside the microbursts. I plotted delta Theta E, CAPE, WMSI, KI and LI charts to represent the study conducted.

In conclusion, "MB" AIRMET, SIGMET, and Aerodrome Warning should be produced. The thermodynamic factors such as RH>60%, delta theta E >25, LI <-3.5, and CAPE > 1500J/kg can serve as a baseline for microburst forecasting.