FloridaClimateCenter
Office of the State Climatologist

December 12, 2012

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100 SE 2nd Street
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RE Location of Interest: 10815 SW 156th Terrace, Miami, FL 33157

To Whom It May Concern:

Included with this letter you will find information requested from our office concerning weather observations for the area of Miami, Florida. Hourly observations provided were taken from the Automated Surface Observing System (ASOS) stations located at the Kendall-Tamiami Airport and the Miami International Airport, which are approximately 4 and 13 miles, respectively, from the location of interest. Daily observations were taken from the National Weather Service (NWS) Cooperative (COOP) Network stations in Miami Beach and Hialeah. Data provided for this report are from March 3, 2012, through March 5, 2012. Also attached is a list of conversions and meteorological identifiers that will help you decipher the information. A map of the area, courtesy of Google Maps, has been included as well. Note that the locations of the stations and the area of interest are marked by yellow push-pins or other identifiers.

The ASOS system serves as the nation's primary surface weather observing network and is designed to support weather forecast activities and aviation operations, and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS detects significant changes and disseminates hourly and special observations. These observations, which are archived, were provided by the National Climate Data Center (NCDC).

The observations from the Kendall-Tamiami Airport during the period of interest show reported rainfall on 03/04/12 only. These observations are listed below.

Date	Time	Visibility	Temp	Dew Point	Relative Humidity	Wind	Wind Gust	Pressure	Present Weather	Report Type
4	1053	10.00 miles	83˚F	71˚F	67%	WSW 18 mph	26 mph	29.95”	Light Rain	Auto
4	1124	10.00 miles	72°F	68°F	87%	NW 30 mph	37 mph	29.98”	Light Rain	Special
4	1353	10.00 miles	66˚F	56˚F	70%	NNW 23 mph	29 mph	30.02”	Light Rain	Auto

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The observations from Miami International Airport during the period of interest show reported rainfall on 03/04/12 only. These observations are listed below.

Date	Time	Visibility	Temp	Dew Point	Relative Humidity	Wind	Wind Gust	Pressure	Present Weather	Report Type
4	1122	10.00 miles	72˚F	64˚F	76%	NW 17 mph	34 mph	29.96”	Light Rain	Special
4	1230	10.00 miles	68°F	61°F	78%	NW 20 mph	29 mph	29.99”	Light Rain	Special
4	1353	10.00 miles	66˚F	57˚F	73%	NW 13 mph	24 mph	30.00”	Light Rain	Auto

Hourly observations from both airports indicate that light rain fell in the area on the 4th. In addition to the data from the airports, observations of daily precipitation totals were taken from COOP stations surrounding the area of interest (as defined above). At these COOP stations observations are taken by volunteers or contractors. Observers record temperature and precipitation daily and send those reports monthly to NCDC and an NWS office. Times that collected weather information is reported varies by station, so these totals are for the 24-hour period, usually beginning/ending between 7:00 am and 9:00 am, though some stations report outside that time window. For example, daily data are collected by the COOP station and reported from 2:00 pm to 2:00 pm, which means rain that fell on a particular day (example: 03/03/12) could be reported the following day (example: 03/04/12).

Daily values of temperatures and precipitation from each station are included with this report. Any variable listed as -999 represents a missing value for the day.

Station	NWS COOP ID	Time of Observation	Rainfall Total 03/03/2012	Rainfall Total 03/04/2012	Rainfall Total 03/05/2012	Rainfall Total 03/06/2012
Miami International Airport	085663	2400	0.00”	0.05”	0.00”	0.00”
Kendall-Miami Airport	KTMB	2400	0.00”	0.00”	0.00”	0.00”
Perrine 4W	087020	0800	0.00”	0.09”	0.00”	0.00”

Also included with this letter are official paper copies of requested radar images, provided by NCDC, for certain times during the event. The images provided are known as Base Reflectivity Images, which display echo intensity measured in dBZ (decibels of Z, where Z represents the energy reflected back to the radar). The scale of dBZ values is also related to the intensity of rainfall. Dates and times are located on the right-hand side of each image (year/month/date/time are given in GMT). Since time is given in GMT, the date on the first image reflects its being taken at 12:16 GMT on the 4th, which corresponds to 7:16 AM EDT on the 4th.

The provided images were taken from the radar site located in Miami-Dade County, which is located near the Kendall-Tamiami Airport, and the approximate location of interest is noted on each image. You will notice an abundance of DBZ values between 5 and 15 dBZs, due to ground clutter and backscatter from clouds, smoke, fog, or temperature inversions; even buildings and antenna towers can reflect small amounts of radar energy during a radar sweep. Typically, light rain is occurring when the dBZ value reaches 20. Depending on the type of weather occurring and the area of the U.S., forecasters use a set of rain-rates, which correspond to the dBZ values.

On the 4th, the radar indicated showers, associated with a fast moving front, extending from central Florida to the west coast at 12:16 GMT that would approach the area of interest throughout the morning. At 14:55 GMT on the 4th, the line of showers was located from just south of Fort Pierce, Florida, and stretched southwestward to around Everglades City, Florida. The line of storms moved into the area of interest at 16:16 GMT and had pushed through by 16:39 GMT. Radar images indicate dBZ values between 45 and 50 passed over the area of interest during the period between 16:16 GMT and 16:22 GMT. Values of 45–50 dBZ usually indicate moderate to heavy rainfall. Review of radar images on both March 3rd and 5th indicated no rainfall present over the area of interest on the previous and following days.

On the basis of the data provided to us, stations surrounding the area of interest reported rainfall less than 0.10" on March 4th and radar images indicate that moderate to heavy rain fell briefly over the location of interest.

I hereby certify that the data provided are true copies of the specified records and/or publications for the times and places indicated thereon on file at the National Climatic Data Center in Asheville, North Carolina, and the Southeast Regional Climate Center in Chapel Hill, North Carolina.

Sincerely,

Melissa L. Griffin
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The Florida State University
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