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Cloud Image Report

Whenever travelers venture to a beach destination, they have a greater appreciation for the scenery around them. I had the opportunity to travel to Jamaica with my family and used the chance to capture my second cloud image. Nearly all of the time I spent in Jamaica the sky was cloudy with large cumulus clouds that blocked the sun. I was trying to capture a sunset, but only had the opportunity the day the image was captured.

The destination that I visited was named Bloody Bay and was located just north of downtown Negril. Negril is located on the west shore of the Island. The day the photo was taken was March 22nd 2010 at around 6:20pm, shortly before the sun set at 6:23pm. The camera was oriented due west and was nearly parallel to the ground, 5ft 7in off the beach surface.


**Figure1: Location of Bloody Bay, Negril, Jamaica**

The temperature was a beautiful 73 degrees Fahrenheit at sunset. The weather for the day consisted of primarily stratocumulus clouds that blocked the sun for long periods of time. Later in the day a cumulonimbus cloud rolled through resulting in a twenty minute downpour. After a few cups of coffee, the storm cloud passed and the overhead sky began to clear. This allowed higher, altostratus clouds to become visible. Within the image the cumulonimbus can be seen to the right of the image. The stratocumulus is seen at the top of the nimbus and throughout the top portion of the image. Finally, the altostratus clouds can be seen to the distant left portion of the image.

Unfortunately, a skew-T plot could not be obtained to further investigate the conditions of the weather. Montego Bay is the nearest major city to Negril and the data I found for wind speeds and precipitation at Montego Bay did not accurately represent the weather I observed at Negril. The following weather properties are a rough estimate for the image location. The wind direction was towards the horizon from east to west with gusts reaching 10-12mph. The stability of the atmosphere at the time is difficult to judge because while the wind was relatively calm, the atmosphere did produce heavy rain. The height of the nimbostratus cloud is approximately 1.5km at the bottom and rises to approximately 3.5km. The stratocumulus clouds are also around 3.5km from sea level. The altocumulus clouds appear to be significantly higher at around 4.5km.

The field of view of the image can be estimated by a simple geometrical calculation. The distance to the horizon from the height that the picture was taken at is 4.65km[1]. Using an angle of 60 degrees for the angle of visibility for the image, the arc length equation can be used to find the width of the image. After making this calculation the field of view was estimated to be 5km across and 4.5km high. The camera used was a Kodak C875 Zoom Digital. The setting used a focal length of 8mm, a lens aperture of F/2.8, a 1/400 shutter speed, and an ISO number of 64. No flash was used for the image. The color curve was adjusted using Photoshop slightly for an increase in both black and white color. This allowed the detail of the clouds to become more visible. The image was cropped so a fellow admirer of the sunset was not included and can be seen at the end of this report. The final image has 2220x1254 pixels. I hope you enjoyed this image and had a slight feeling of envy that you did not get to witness the scenery for yourself.

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1. http://en.wikipedia.org/wiki/Horizon

**Figure 1: Original Photograph**