**COLOR BASED OPTICAL IMAGE**

**ABSTRACT**

Over the past decades, there is tremendous development in spatial resolution of satellite images, hence the methods for segment-based image analysis for generating and updating geographical information are becoming more and more important. This technique presents a novel image segmentation based on color features with unsupervised K-means clustering algorithm. The main aspire of this approach is to detect the storm formation in the cloud satellite images. Here without using any training data, the entire process is divided into two stages. First enhancement of color separation of satellite image using de-correlation stretching is carried out and then the regions are grouped into a set of five classes using K-means clustering algorithm. Using this two-step process, it is highly possible to reduce the computational cost by avoiding feature calculation for every pixel in the image. Although the color is not frequently used for image segmentation, it gives a high discriminative power of regions present in the image.