Abstract

In this paper, proposes an efficient method for change detection in forest areas using panchromatic stereo imagery and Multispectral imagery using kernel minimum noise fraction analysis. Due to low spectral information it is difficult to extract the change features, since changes mostly occur together with other unrelated changes such as environmental changes and seasonal changes. Hence the kernel minimum noise factor approach is used to transform the image of simple dimension to high dimensional feature space using centering followed by computation of Eigen values and Eigen vectors of the given image. Image subtraction extracts the surface variation information from the two different input images. Images are classified and
the change mask is generated using Iterated Canonical Discriminant Analysis (ICDA) with smaller number of pixel values. Two different examples are used for change detection analysis. Same amount of training samples are used here, by using this method more accurate change detection mask is achieved. In this paper, change detection is analyzed using different types of images from satellites resulting in accurate change detection mask. This is found to be better when compared with algorithms based on Random forest, k-means and one class support vector machine.

References

Plants Change Detection in Forest Areas based on Satellite Imagery using Kernel MNF


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Change Detection  
Kernel Minimum Noise Factor (kmnf)  
Image Subtraction  
Centering  
Iterated Canonical Discriminant Analysis (icda)  
Panchromatic Image  
Multispectral Image.