

Using Fourier analysis and wavelet transforms in landuse classification

Santosh Tripathi
Asian Institute of Technology
Klong Luang ,Pathumthani
E-mail: tripathi@yahoo.com

Abstract

Time series data can be represented by Fourier analysis and the wavelet transform as well. Each of these methods can represent the time series data in terms of some basic units: harmonic components for the former and wavelet functions for the latter. As most landuse types show characteristic variation in their response to the changing seasons over a year there is the possibility that we can identify landuse classes based upon the “basic units” onto which their time series response can be broken. In this study, we compare the accuracy of this approach with the more conventional classification methods such as supervised classification (based on different criteria such as maximum likelihood, minimum distance, Mahalanobis distance etc) and unsupervised classification.