FEATURE ENHANCEMENT FROM REMOTE SENSING IMAGES WITH MODIFIED FILTERING TECHNIQUES USING INTERACTIVE DATA LANGUAGE PROGRAMMING ENVIRONMENT

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Commercial Image Processing software enhance feature from satellite images using convolution filtering methods. However, internal process of that convolution formula is unknown to the general user.

The study focuses on creating a software using Interactive Data Language (IDL) programming environment to enhance features (Mainly focus on point features) from satellite images. Further, a new filter called Point Spread Function (PSF) which works as a convolution filter was introduced and compared with existing filtering techniques.

The whole filter process can be divided in to two phases and those are built-in filters in ERDAS IMAGINE software and user defined filters. Two separate satellite images were taken from two different satellites were used in this study to evaluate the coding system.

The study discovers the effect of existing filtering techniques applied on satellite images to enhance point and line features. The needs for development of a filter capable for enhance line and point features were visualized after these experiments. For the study it was used by Point Spread Function as a convolution filter and applied it in to satellite images. The results indicate that the method proposed in the literature is more effective and intelligent than that used previously.

Interactive Data Language (IDL) coding used to create software called GM Solutions and applied convolution filters on images, and showed a few different filters and their results. The study indicated the Point Spread Function (PSF) is not much supported for very high resolution images such as WorldView-3 Satellite images. However, it can be used to get better result for IKONOS MSS images.